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TL-HIP FINAL REPORT (OCTOBER 2011 – NOVEMBER 2015)

TIMOR-LESTE HEALTH IMPROVEMENT PROJECT



**Submitted to USAID by John Snow, Inc.
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Cover photo: Husband, wife and their two children attending Gleno Community Health Center's consultation.

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Acronym List

<i>Aldeia</i>	Hamlet
AIP	Annual Implementation Plan
AMTSL	Active Management of the Third Stage of Labor
ANC	Antenatal Care
AO	Assistance Objective
APTWG	Administrative Post Technical Working Group
BEmOC	Basic Emergency Obstetric Care
BEmONC	Basic Emergency Obstetric and Neonatal Care
BCC	Behavior Change Communication
BLS	Basic Life Support
BSP	Basic Services Package
CEmOC	Comprehensive Emergency Obstetric Care
CHC	Community Health Center
DIV	Development Innovation Ventures
CCT	<i>Cooperative Café Timor</i> (Timor Coffee Cooperative)
CM	Community Mobilization
COR	Contract Officer Representative
CPFF	Cost-Plus-Fixed Fee
CPR	Contraceptive Prevalence Rate
CYP	Couple Years Protection
DFAT	Department of Foreign Affairs and Trade
DMT	Decision-Making Tool
DOI	Diffusion of Innovations
DOTS	Directly Observed Therapy Short-course
DPT	Diphtheria, Pertussis, Tetanus
DTWG	District Technical Working Group
EmOC	Emergency Obstetric Care
ENBC	Essential Newborn Care
EPI	Expanded Program on Immunization
F-FDTL	<i>Falintil-Forsa Defesa Timor-Leste</i> (Falintil-Timor-Leste Defense Forces)
FGD	Focus Group Discussion
FP	Family Planning
FPNSW	Family Planning New South Wales
FUAT	Follow Up After Training
FRF	Facility Readiness Format
GDP	Gross Domestic Product
GFR	General Fertility Rate
GOTL	Government of Timor-Leste
HFS	Health Facility Survey
HIP	Health Improvement Project
HMIS	Health Management Information System
HNGV	<i>Hospital Nacional Guido Valadares</i> (National Hospital Guido Valadares)
HNTL	HealthNet Timor-Leste
HP	Health Post

HR	Human Resources
IDI	In-depth Interviews
IEC	Information, Education and Communication
IMCI	Integrated Management of Childhood Illness
INS	<i>Instituto Nacional de Saúde</i> (National Health Institute)
IPL	<i>Imunizasaun Proteje Labarik</i> (Immunization Protects Children)
IR	Intermediate Result
IUD	Intrauterine Device
JSI	John Snow, Inc.
KPI	Key Performance Indicator
LAM	Local Area Monitoring
LISIO	<i>Livrinho Saúde Inan no Oan</i> (Mother and Child Health Booklet)
LMIS	Logistic Management Information System
M&E	Monitoring and Evaluation
MCC	Millennium Challenge Corporation
MCH	Maternal and Child Health
MDG	Millennium Development Goal
MHS	Municipality Health Service
MMR	Maternal Mortality Ratio
MNCH	Maternal, Neonatal and Child Health
MOH	Ministry of Health
MOU	Memorandum of Understanding
MPHO	Municipality Public Health Officer
MSA	Ministry of State Administration
MSI	Marie Stopes International
MTWG	Municipality Technical Working Group
NASG	Non-Pneumatic Anti-Shock Garment
NCCTRC	National Critical Care and Trauma Response Centre
NGO	Nongovernmental Organization
NHSCC	National Health Sector Coordinating Committee
NHSSP-SP	National Health Sector Strategic Plan Support Project
NTT	Nusa Tenggara Timur
ORT	Oral Rehydration Therapy
PDD	<i>Pakote Dezenvolvimentu Desentralizadu</i> (Decentralized Development Package)
PDID	<i>Planu Dezenvolvimentu Integradu Distritu</i> (Integrated District Development Plan)
PHC	Primary Health Care
PNC	Postnatal Care
PNDS	<i>Programa Nasional Dezenvolvimentu Suco</i> (National Program on Suco Development)
PP14	Pacific Partnership 2014
PPH	Postpartum Hemorrhage
PRA	Participatory Rural Appraisal
PSF	<i>Promotor Saúde Familia</i> (Family Health Promoter)
PY	Project Year
QC	Quality Control
QI	Quality Improvement

QIC	Quality Improvement Collaborative
RACS	Royal Australasian College of Surgeons
RFP	Request for Proposal
RH	Reproductive Health
RMNCAH	Reproductive, Maternal, Newborn, Child and Adolescent Health
SAMES	<i>Serviço Autonomo de Medicamentos e Equipamentos de Saúde</i> (Medicine and Health Equipment Autonomous Service)
SBA	Skilled Birth Attendance
SDTWG	Sub-District Technical Working Group
SGP	Small Grant Program
SISCa	<i>Serviço Integrado Saúde Comunitária</i> (Integrated Services of Community Health)
SJOG	St. John of God Health Care
SM	Safe Motherhood
SOW	Scope of Work
SOP	Standard Operating Procedure
STG	Standard Treatment Guideline
<i>Suco</i>	Village
TA	Technical Assistance
TAIS	<i>Timor-Leste Asistencia Integrado Saúde</i> (Timor-Leste Integrated Health Assistance)
TFR	Total Fertility Rate
TNA	Training Needs Assessment
TOT	Training of Trainers
TOR	Terms of Reference
UCSF	University of California, San Francisco
UNFPA	United Nations Population Fund
UNTL	<i>Universidade Nacional de Timor-Leste</i> (National University of Timor-Leste)
USAID	United States Agency for International Development
USG	United States Government
WB	World Bank
WHO	World Health Organization

EXECUTIVE SUMMARY

On October 1, 2011, the United States Agency for International Development (USAID) awarded Contract No. AID-486-C-11-00003 to John Snow, Inc. (JSI), the original period of implementation was four years. The original contract award was for HIP to be implemented in five districts (three of which were pre-selected and the implementation districts of the previous USAID project, TAIS). These districts were Ermera, Manatuto and Oecusse. The two other districts of Baucau and Viqueque were selected with the Ministry of Health. The project objectives were aligned to the USAID Country Strategy at that time which were: (1) Improved MNCH behaviors and outcomes; (2) Improved health service delivery through MOH service delivery sites; and (3) Increased community engagement around key MNCH and FP issues. Over the course of four years of implementation, nine contract amendments were issued including several that changed funding levels and approved or added program and technical content. The final amendment in 2015 added two months to program implementation.

Four years ago, the Timor-Leste Health Improvement Project (HIP) began implementation in an environment of high expectations. This Final Report presents measurable accomplishments and results in multiple areas that show HIP's significant and abiding focus on capacity development with our principal partner the Ministry of Health (MOH). HIP did not achieve all this in four years since the project built upon six years of successful USAID support to the Government of Timor-Leste and the non-governmental organization (NGO) sector in the areas of health systems strengthening, infectious disease prevention, nutrition, food security, maternal, newborn and child health (MNCH) and family planning (FP) programming. Therefore, when JSI began the implementation of HIP, startup activities were built on the vital foundation created by the MOH and USAID's six years of previous cooperation on health projects and programs. The vision of a comprehensive, well-managed health service delivery system that improves the health of families, women, men, and children continued to be shared by all.

Partnership with the MOH was a critical aspect of project implementation and significant results. From national health managers and directors and their staff to community health nurses in remote health posts and the municipal health management teams that support them, partnerships created an environment for improvement. Capacity development was a key approach shared by municipalities/region, national MOH and JSI's team, covering areas from essential newborn care and supply chain to long-acting methods of family planning and emergency obstetric care.

HIP created an environment of continual collaboration with the MOH, beginning with an emphasis from the first quarter on joint integrated planning. HIP utilized the MOH National Health Sector Strategic Plan 2011-2030, as well as, best practices and evidence-based interventions from USAID and the World Health Organization (WHO), to inform strategic programming. Full collaboration with the MOH at its national, municipality, and community levels led to a true partnership, building capacity at every point of HIP interaction. HIP also provided technical and practical assistance to increase the capacity of the MOH to coordinate and improve collaboration within the health sector between the MOH and donors. Finally, HIP funded two small but important grants for local NGOs working in the health sector, emphasizing gender and men's health and community mobilization.

JSI also received particularly strong support from USAID/Timor-Leste and USAID's Regional Bureau in Bangkok, Thailand including the program and health teams in Dili. This includes the support on contract administration JSI received from the Contracts Office staff in Bangkok vis a vis the technical support and backstop team in Timor-Leste. This project's success would not have been possible without their consistent programmatic and contracting support and strong relationship with the MOH.

Attention to cost containment and use of cost-effective approaches led to savings and increased value for government expenditures. JSI invested in identifying and using locally based expert consultants, opportunities to leverage resources with other USAID projects and health sector partners to improve results and increase impact, and used a variety of procurement options to reduce cost while ensuring quality. Overall, JSI provided responsible stewardship of U.S. Government funds and investment in sustainable improved service delivery and increased capacity to provide and support these services.

At the end of the USAID Timor-Leste Health Improvement Project, JSI herewith presents the work that led to measurable improvements and results in myriad areas described in this Final Report. Systems improved, hospitals and health centers provided higher-quality care, and the correct drugs and equipment were available more often. Most importantly, the overall health of individuals and families in three regions of Timor-Leste improved.

As a result of the support and efforts of HIP and its partners in the project's coverage area, selected achievements over the project lifespan include the following:

- Service utilization consistently increased for the project's coverage indicators, including:
 - Couple years protection (CYP),
 - FP counseling visits,
 - Completion of at least four antenatal care visits (ANC),
 - Skilled deliveries, and
 - Completion of three Diphtheria, Pertussis and Tetanus (DPT) vaccinations.
- MOH facility readiness supportive supervision program was piloted in five health facilities with intensive HIP technical assistance (TA) and collaboration with US Navy Seabees. Assessments conducted before and after TA showed significant improvements in the five facilities' readiness to provide quality services.
- Facility readiness supportive supervision was expanded to all facilities in HIP's focus municipalities/regions, leading to **large improvements** in average municipality/region scores: from 43 to 73%, 47 to 64% and 42 to 68% in Ermera, Manatuto and Oecusse respectively. Ten out of 16 CHCs reached 80% and 5 reached 70%.
- MNCH program supportive supervision was **institutionalized**¹ for FP, safe motherhood (SM)/essential newborn care (ENBC), integrated management of childhood illnesses (IMCI) and expanded program on immunization (EPI).

¹ Process which translates an organization's code of conduct, mission, policies, vision, and strategic plans into action guidelines applicable to the daily activities of its officers and other employees.

- A total of 454 MNCH/FP supportive supervision visits were conducted and **all programs improved their quality (scores)** during the project's four years.
- More than **1,700 health workers** were trained on FP, safe and clean delivery, ENBC, IMCI, EPI, nutrition, and non-pneumatic anti-shock garment (NASG). **It is important to note that as a part of the competency based training approach most training included practice of competencies on real patients.** HIP provided technical assistance to the MOH and the National Health Institute to conduct these trainings.
- NASG interventions were introduced for the first time in Timor-Leste to save the lives of women suffering from postpartum hemorrhage (PPH). In one year (October 2014 to September 2015), the NASG was used on 40 women suffering from PPH. All women survived and are alive to take care of their newborns and children.
- **HIP increased the use of modern FP methods**, as represented in rising CYP in the three HIP municipalities/regions. HIP built considerable community support through advocacy and improved information and counseling for women and men, and simultaneously increased provider competency and access to long-acting methods.
- HIP provided technical assistance to the MOH and other partners for the development and implementation of the MOH's Health Planning and Budgeting Guidelines, as well as, the Monitoring and Evaluation Guidelines.
- Significant support was provided to the Health Management Information System (HMIS) Department and improved the timeliness/completeness of reports and aimed to increase the use of health services data for planning and monitoring.
- More than 1,300 people, including 600 pregnant women, were reached with safe motherhood education and birth preparedness/complication readiness planning. Enumeration and tracking of pregnant women and children under one was implemented in 25 communities by health workers with help from community leaders and health promoters.
- Micro-plans and *suco* plans were implemented throughout the life of the project, reaching a total of 5,408 community members with night events and 8,333 beneficiaries with SISCa services and education outreach.
- The MOH and INS Research Department conducted the Maternal Health Study or Three Delays Study with support from HIP in three municipalities/region. The results were analyzed and action plans developed by health workers and community leaders to overcome the three delays; **planned actions were integrated into the MOH 2016 plans.**
- HIP intensively coordinated with several partners working in the health sector in key activities such as development and implementation of the MOH guidelines, distribution and assembling of medical equipment, Measles-Rubella (MR)-Polio immunization campaign, training, orientations and refresher training, and training follow-up.

These and other health status outcomes, as well as, health system outputs are expected to contribute positively to improved impact data that will be available when the next Demographic and Health Survey is conducted in Timor-Leste in 2017.

Further details of selected interventions and related outcomes are found in the body of this report and in annexes in our series of HIP Technical Briefs.

To achieve the above results, JSI concentrated on technical and managerial excellence. Throughout the project's four-year life, JSI managed HIP with constant attention to cost

containment and use of cost-effective approaches. These included identifying locally available expert consultants, building upon prior successes, synergies with grantees, leveraging funds with other donors, identification of equipment from closing USAID projects to reduce procurement needs, and reducing local travel expenses. Significant investment in local staff development reduced the need for intensive external managerial support.

This document serves as the Health Improvement Project's Final Report, covering the period from October 1, 2011 through November 30, 2015. It is structured in line with the contract's Report and Deliverables or Outputs Section. It is composed of four sections, and includes HIP's health system capacity-building approach, compliance with FP policies, monitoring and evaluation (M&E), and a summary fiscal report.

Summary of Challenges and Constraints

- During the four years of implementation, Timor-Leste twice changed Governments, which resulted in the change of high-level (the Minister of Health) and mid-level (Department Heads) leadership in the MOH. Some momentum was at times lost and the project's implementation was slowed due to these frequent changes.
- During the first few months of each year, disbursement of funding from the Government of Timor-Leste to ministries and municipalities is processed late, leaving departments and municipalities with minimum operating cash and impeding implementation of activities.
- Human resources have significantly increased at health facilities with the placement of almost 1,000 doctors and midwives and nurses newly graduated from UNTL. These doctors are now in crucial need of competency-based clinical training on basic MNCH services.
- The MOH does not yet have an accredited clinical training center. This affects the effectiveness of pre- and in-service training and most students/participants do not reach competency after their training.
- The supply system is not functioning adequately from procurement to distribution. The health facilities with which HIP worked faced regular stock out problems.
- Health providers participating in training often go back to facilities which do not meet the required standards for infrastructure (electricity, water or sanitation), drugs, equipment or management systems.
- There is no one major means of communication in Timor-Leste allowing reach to most of the beneficiaries: radio and television coverage are small and illiteracy rates are still high.
- Thirty to 45% of the health facilities are inaccessible during the rainy season. This required careful planning for coordinating training during the dry season and ensuring buffer stocks and supplies.
- The BEmOC program, essential for reducing maternal mortality, faces important constraints including having adequate supplies and inadequate competencies of health personnel.

Summary of Recommendations

HIP would like to present the following recommendations for MOH and stakeholders with the aim of prioritizing aspects of capacity-building of the Timor-Leste Health System.

Health Systems Strengthening

- **Strengthen Timor-Leste's health supply chain.**
Continual investments are required to move Timor-Leste to a phase where systems, processes, and coordination of supply chain efforts exist to improve the availability of products at health facilities.
- **Strengthen the BEmOC program and continue NASG intervention to reduce maternal mortality.**
BEmOC is essential for reducing maternal mortality. Its components need to be strengthened to respond adequately to emergencies. This process is a long-term intervention, and until BEmOC is functioning effectively, NASG interventions should be scaled-up countrywide to improve chances of survival for women suffering from PPH during transport from municipalities to a functioning BEmOC center.
- **Implement evidence-based planning and budgeting.**
Evidence-based planning is an essential component to improve coverage, quality of services and health system functioning. Recently developed MOH Health Planning and Budgeting Guidelines and M&E Guidelines should be implemented at all levels to ensure this.
- **Support the development of a fully functional and effective national blood bank including donation system.**
While NASG is a tool that can effectively slow bleeding, it is not a treatment for hemorrhage. Therefore, it is important to ensure that countries have well-functioning blood banks and donation systems where a supply of safe blood is readily available when needed.
- **Support evidence-based interventions to reduce neonatal mortality due to infection.**
Capitalizing on the current implementation of preventive domiciliary visits by HP doctors, consider introducing Chlorhexidine as a home based treatment of the newborn's umbilical cord where families are unable to deliver with a skilled birth attendant.

Health Organization

- **Address the different components of PHC in a coordinated and integrated manner with MOH and partners.**
There is a strong commitment from MOH for the implementation of the guidelines, which should be supported by all partners, without losing the focus on all PHC components, i.e., program, management, clinical competence, ethics, quality control, and domiciliary visits.
- **Ensure functioning of health facilities isolated during rainy season.**
Planning should take into account the needs of health facilities isolated during the rainy season. Health managers need to take advantage of the dry season to coordinate training and ensure adequate supply of buffer stocks for drugs.

Health Personnel

- **Establish a training system with the objective of reaching competency for all participants.**
Most training ends with less than 50% of participants reaching competency on real patients. There is a need to establish clinical training centers that allow sufficient supervised practice on real patients and to increase the number of qualified trainers to cover current needs. Consideration should be given to establishing clinical training centers next to the National and Referral Hospitals. Pre-service clinical training should also be included in the system. Until this is established, FUAT should receive as much attention as training does.
- **Continue supportive supervision once health workers have reached competency.**
Supportive supervision assesses all components of programs, ensuring that infrastructure, management, equipment, supplies, competent skilled workers meet basic services standards. For a program to provide quality services all components are necessary.
- **Ensure health providers are equipped with the skills, equipment, and support materials to identify and manage pre-existing conditions or other risk factors to minimize risk of post-partum hemorrhage (PPH).**
A small proportion of women where NASG was used were noted to suffer from severe anemia. Although information about ANC attendance was not available through the monitoring system, it is important to encourage ANC visits to minimize risk factors for PPH such as maternal anemia.

Individual and Community

- **Health promotion activities need to emphasize interpersonal communication and ensure promoted services are directly available.**
Radio and television coverage is very low in Timor-Leste and the illiteracy rate is still high, especially among populations with the most health needs. Face-to-face communication is most effective to change people's behavior and access to availability services guarantee actual adoption and minimize loss of clients.
- **Support the quality and content of ANC visits and ensure appropriate birth preparedness / complication readiness (BP/CR) educational or planning materials are developed and/or provided.**
The quality of the ANC visits needs to be consistently monitored and supported through mechanisms such as records review and client exit interviews. Equally important is to ensure providers have the necessary interpersonal skills.
- **Continue implementation of health action plans as a sustainable means of providing health education to *suco* leaders and in turn to their communities.**
Collaboration between national, municipality, CHC, and *suco* councils served as a critical building block for planning. Implementation of health action plans with community leaders is essential to ensure that underserved communities have evidence-based facts to maximize their share of available resources.

INTRODUCTION

Initial context (2011)

The Health Improvement Project (HIP) was designed because priority needs in maternal, neonatal and child health (MNCH) care and family planning (FP)/reproductive health (RH) in Timor-Leste were unmet, as demonstrated by the Demographic and Health Survey 2009-10 (TLDHS 2009-10)² with the following results:

Indicator	Result
Maternal mortality ratio	557 (per 100,000 live births)
Child mortality rate	64 (per 1,000 live births)
Infant mortality rate	45 (per 1,000 live births)
Neonatal mortality rate	22 (per 1,000 live births)
Births not attended by a skilled provider	70%
Births delivered at home	78%

Other primary mortality causes among young children were malaria and diarrheal disease caused by a lack of safe water, as well as, poor sanitation and hygiene practices. The World Health Organization (WHO) estimates that 40% of the under-5 deaths can be attributed to poor nutrition. While there was overall progress on micronutrient supplementation, breastfeeding practices needed further strengthening and iron and folate supplementation for mothers was inadequate.

The connection between child death, poor nutrition, and FP is strong. The mortality rate for the under-fives was 64 per 1,000 live births on average in Timor-Leste but rose to 126 for children whose birth was spaced less than 24 months from the mother's previous birth—largely the result of low birth weight and poor nutritional status for both mother and child. The link between poverty and lack of adequate access to services by poor families is also strong. More than half of post-neonatal and young child deaths occurred in the two lowest economic quintiles of the population; those families were also least likely to immunize their children or seek care when the child is sick.

Women in Timor-Leste have a high total fertility rate (TFR) of 5.7, low contraceptive use of 22%, a notable total unmet need for FP (31%) and for spacing (21%), with 35% of women wanting no more children and 29% of children born in less than a two year period after the mother's previous delivery.

The under-five mortality rate fell notably between 2003 (when the first Demographic and Health Survey in independent Timor-Leste was conducted) and 2009, declining from 107/1,000 live births to 64. FP was also a modest success story with the contraceptive prevalence rate (CPR)

²Democratic Republic of Timor-Leste, Ministry of Finance. 2010. Timor-Leste Demographic and Health Survey 2009-10 (TL-DHS 2009/10)

rising from 10% in 2003 to 22% in 2009. However, several measures of health and nutrition have not shown adequate improvement, most notably maternal mortality, use of skilled birth attendants, and nutritional status of under-five children.

The Ministry of Health (MOH) provides medical services to the nation's population from the *Hospital Nacional Guido Valadares* (HNGV – National Hospital Guido Valadares) in Dili, five referral hospitals, 67 community health centers (CHCs), and 172 health posts (HPs). HPs serve as an extension of the CHC in some villages (*sucos*), providing basic primary health care (PHC) services. In 2008, the *servisu integradu saúde comunitária* (SISCa – integrated community health services) was added to the system to offer every *suco* access to health services through regularly scheduled outreach

The Government of Timor-Leste (GOTL) has been committed to reaching the Millennium Development Goals (MDGs) through its Basic Services Package (BSP) as outlined in the National Health Sector Strategic Plan (NHSSP) 2011-2030 and the National Reproductive Health Strategy (2004). The results of the TLDHS 2009-10 showed that Timor-Leste achieved MDG 4 for children under five and infant mortality rates; however in some of the HIP's target municipalities/region—especially Ermera municipality—these goals were not achieved. The TLDHS 2009-10 also showed that the MMR was more than twice the 2015 goal.

Timor-Leste Health Improvement Project

In this context, the United States Agency for International Development (USAID) awarded Contract No. AID-486-C-11-00003 to John Snow, Inc. (JSI) for the implementation of the four-year Timor-Leste Health Improvement Project (HIP), with the objectives of improving MNCH behaviors and outcomes, improving health service delivery through MOH service delivery sites, and increasing community engagement around key MNCH and FP issues in the municipalities (formerly named 'districts') of Baucau, Ermera, Manatuto and Viqueque and in the Oecusse region (see map) with a budget of \$14,994,537 [Cost-Plus-Fixed Fee (CPFF) Completion-Type Contract]. A third of the funding was provided by the Australian Department of Foreign Affairs and Trade (DFAT).



HIP built upon six years of successful USAID support to the GOTL and the non-governmental organization (NGO) sector in the areas of health systems strengthening, infectious disease prevention, nutrition, food security, MNCH and FP programming. HIP activities focused on MNCH and FP and on the following population segments: health providers at the municipality, administrative post (formerly named ‘sub-districts’), and community levels; women of reproductive age; and children under five years of age. HIP also ensured the following cross-cutting operational and implementation themes were integrated throughout the project’s strategies and activities:

- Gender equity.
- Promotion and support of Timorese organizations.
- Coordination and collaboration with the MOH.
- Youth involvement.
- Male involvement.
- Sector leadership.
- Partnerships and integration.

The implementation process instituted by JSI ensured integrated planning with the full ownership and participation from the MOH at its national, municipality, and community levels. HIP provided technical assistance (TA) to increase the capacity of the MOH and worked to promote coordination and collaboration within the health sector among the MOH partners and donors. HIP utilized the MOH NHSSP 2011-2030, as well as best practices and evidence-based interventions from USAID and WHO as a part of strategic programming. HIP’s implementation process included the sharing and dissemination of health information and lessons learned from MNCH and FP programming. HIP’s plan included strategies for the replication and scaling-up of successful HIP (USAID-funded) interventions in health and the identification and utilization of opportunities for collaboration and integration with USAID’s non-health programming.

During the first two years of the project, HIP and its two sub-contractors functioned as a coordinated whole and not a set of disparate organizations with different allegiances. Organizational skills were applied broadly in the project scope of work as follows:

JSI was responsible for overall management of the contract, including adhering to USAID regulations, financial management, project reporting, and overall accountability for the project achieving its results. JSI’s project management cut across all activities, including the management of all municipality offices.

Burnet Institute (Burnet) applied its expertise to quality improvement for in-service trainings in the technical areas of MNCH and FP for doctors, midwives, and nurses.

Menzies School of Health Research (Menzies) guided HIP’s efforts to improve MNCH through nutrition, especially by reinforcing practices that combat stunting and wasting.

Vision

The Health Improvement Project works through the Ministry of Health's system at the community, facility, municipality, and national levels to provide technical assistance to build capacity and strengthen the health system's ability to improve service quality, use of data for management, and access to services. The Health Improvement Project promotes coordination between all partners in order to achieve measurable, meaningful results for the health of mothers, children, and families of Timor-Leste.

HIP Launch and Project Year (PY) 1 Planning

Six weeks after its start, HIP submitted its first annual plan for PY1 and on November 29, 2011 the Minister of Health officially launched the project in Dili, with USAID and DFAT representatives in attendance. The day after, the focus Municipality Health Services (MHS) directors and officers sat with MOH personnel, HIP, and partners to outline detailed plans for PY1. This first workshop supported by HIP directly set the evidence-based planning methodology which was promoted by the project during the subsequent four years; the evidence-based planning methodology is present in all sections of this report, but more detailed in Section I, 1.2.1. Following the launch the Municipality Directors of the focus districts met. The launch was also followed by the first Steering Committee meeting chaired by the Minister.



Launching ceremony photo taken in front of the event's banner. Present were the Minister of Health, the US Ambassador, USAID Mission Director, DFAT Program Head, MOH Municipality Health Services Directors and partners.

During the launch, the project's name and logo were displayed for the first time. The name 'HADIAK', which means 'improve' in Tetum, was chosen by the Minister. HADIAK is also an acronym for *Haforsa Distritu iha Implementasaun Atividade Kuidadus Saúde Primaria* (Strengthen the Districts in the Implementation of Primary Health Care Activities). The Minister's instructions to HIP were to work at the municipality level to support the implementation of existing policies, strategies and guidelines, and reinforce PHC. This reinforced many of the main elements of the USAID HIP contract, leading to smooth early implementation and shared expectations.



HIP's logo displays a healthy family: pregnant mother with an older child to show good spacing, and a caring husband/father accompanying his family to the health services. Health services are available at a health facility (illustrated by the MOH logo) and at the community level (image of a crowd). It shows HIP's intention to work with both health personnel and community to reinforce PHC.

Contract modifications

Initially the project was implemented in four municipalities and one region as described above; however, during the last quarter of PY2 a significant budget cut was announced by USAID. A revision (de-scale) of HIP's scope of work (SOW) occurred, described in a contract modification (AID-486-C-11-00003 #03) signed by USAID and JSI on November 6, 2013. The revised SOW and budget cut (\$3 million) affected several technical and geographical areas of the project. These changes were implemented immediately after the contract modification was signed and included the following: (1) termination of support to Baucau and Viqueque municipalities, reducing the project's focus to the municipalities of Ermera and Manatuto and the region of Oecusse; (2) support to the Health Management Information System (HMIS) and the *Instituto Nacional de Saúde* (INS – National Institute of Health) was reduced; and (3) the scope of the Small Grants Program (SGP) was downsized. Annex 1 is a summary report of HIP's work in Baucau and Viqueque, and work done to support HMIS is described in Section I, 1.2.2.

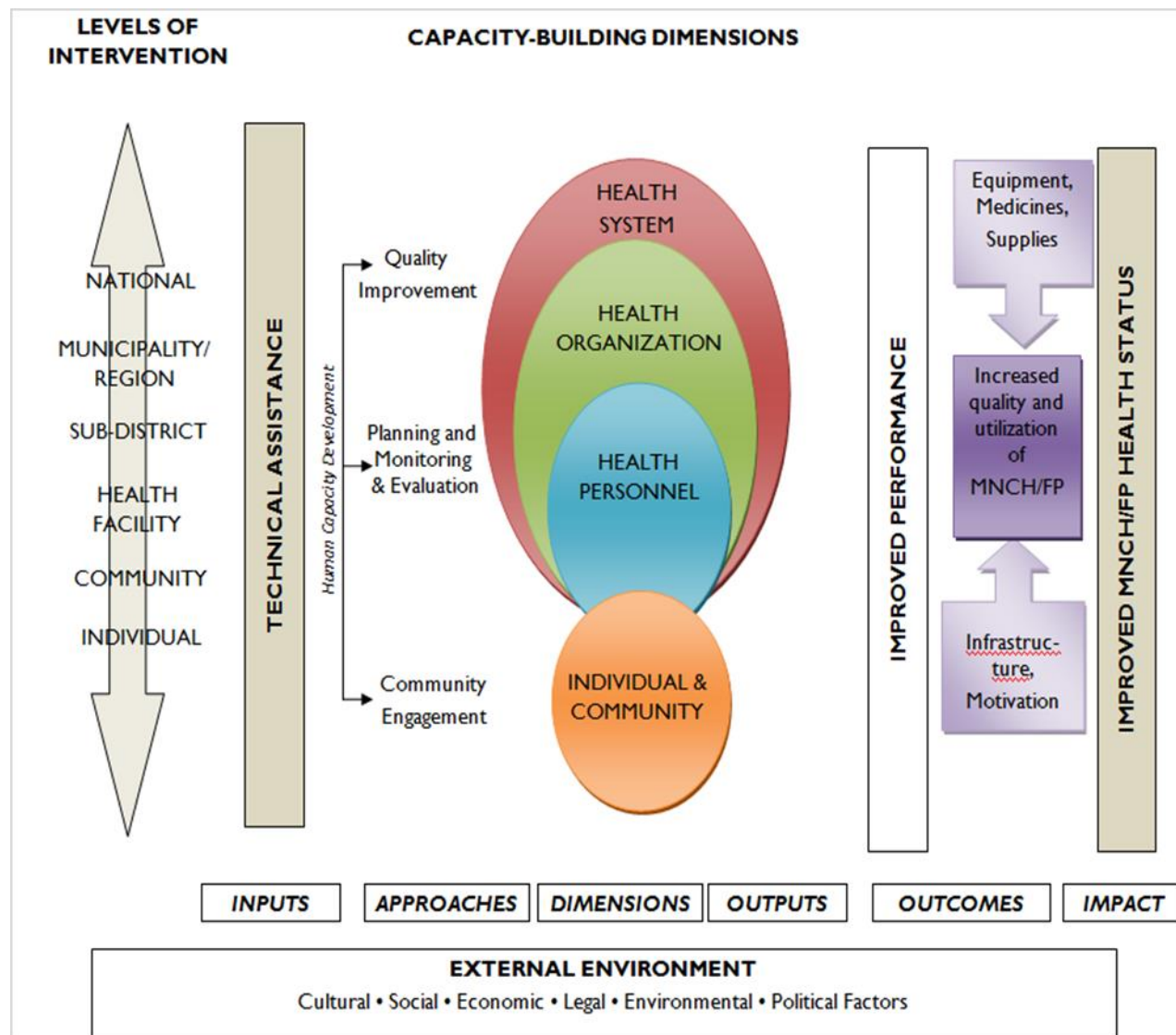
In total, HIP's contract with USAID included nine contract modifications of which two changed the technical SOW of HIP. The first was due to the reduction in funding noted above. The second, Modification No. AID-486-C-11-00003 #07 (September 24, 2014) was issued by USAID to add a new element to the SOW and \$400,000 additional funds to enable Phase II of the non-pneumatic anti-shock garment (NASG) project activities under the Development Innovation Ventures (DIV) funding. This work is detailed in Section I, 1.2 and Annex 4 and Annex 5.

This document serves as the project's final report covering the period from October 1, 2011 through November 30, 2015. It is structured in line with the contract's Report and Deliverables or Outputs section (pages 37-38). It is composed of four sections, includes HIP's health system capacity-building approach, compliance with FP policies, monitoring and evaluation (M&E), and fiscal report.

SECTION I: BUILDING HEALTH SYSTEM CAPACITY IN TIMOR-LESTE

As a systems strengthening project, HIP's main objective was to assist the MOH to improve its health systems performance, and subsequently to improve MNCH and FP outcomes.

Figure 1: Building health system capacity across four dimensions



To do so, the project worked through four capacity-building dimensions (see Figure 1):

1. The **health systems dimension**, comprised of personnel, resources, planning, and institutions or organizations related to financing, regulation, or the provision of health care.
2. The **health organization dimension**, which includes the structures, processes, and systems in place that allow the organization to produce goods and services, such as quality of care, at an acceptable standard.

3. The **health personnel dimension**, which considers human resources—such as health care providers, health facility managers, health advocates, and other health system support personnel—as critical to any capacity building or change process that advances the sustainability of the health system.
4. The **individual and community dimension**, consisting of engaging the community to increase demand for essential MNCH/FP services.

Using these four dimensions, HIP focused on four approaches:

1. Human capacity development, a cross-cutting approach, focusing on increasing workforce effectiveness and performance management.
2. Quality improvement (QI).
3. Planning and monitoring and evaluation (M&E).
4. Community engagement.

One or more of these approaches were used to develop different elements within the four capacity-building dimensions. For example, supportive supervision—one of HIP’s key QI approaches—improved the capacity of health personnel, of the health system as well as the capacity of health organization. Some approaches were applied primarily at one level (national, municipality/region, administrative post, health facility or community) and others simultaneously at multiple levels such as human capacity development. In combination, these approaches helped to achieve the core of HIP’s objectives of improving health services performance for MNCH/FP.

The technical brief “Building Capacity to Improve Maternal, Newborn, and Child Health and Family Planning Outcomes” attached in Annex 2 provides a summary of HIP’s capacity-building strategy and efforts.

The implementation of HIP’s capacity-building approaches detailed in all HIP’s work plans is described below, with separate analysis for each project municipality/region.

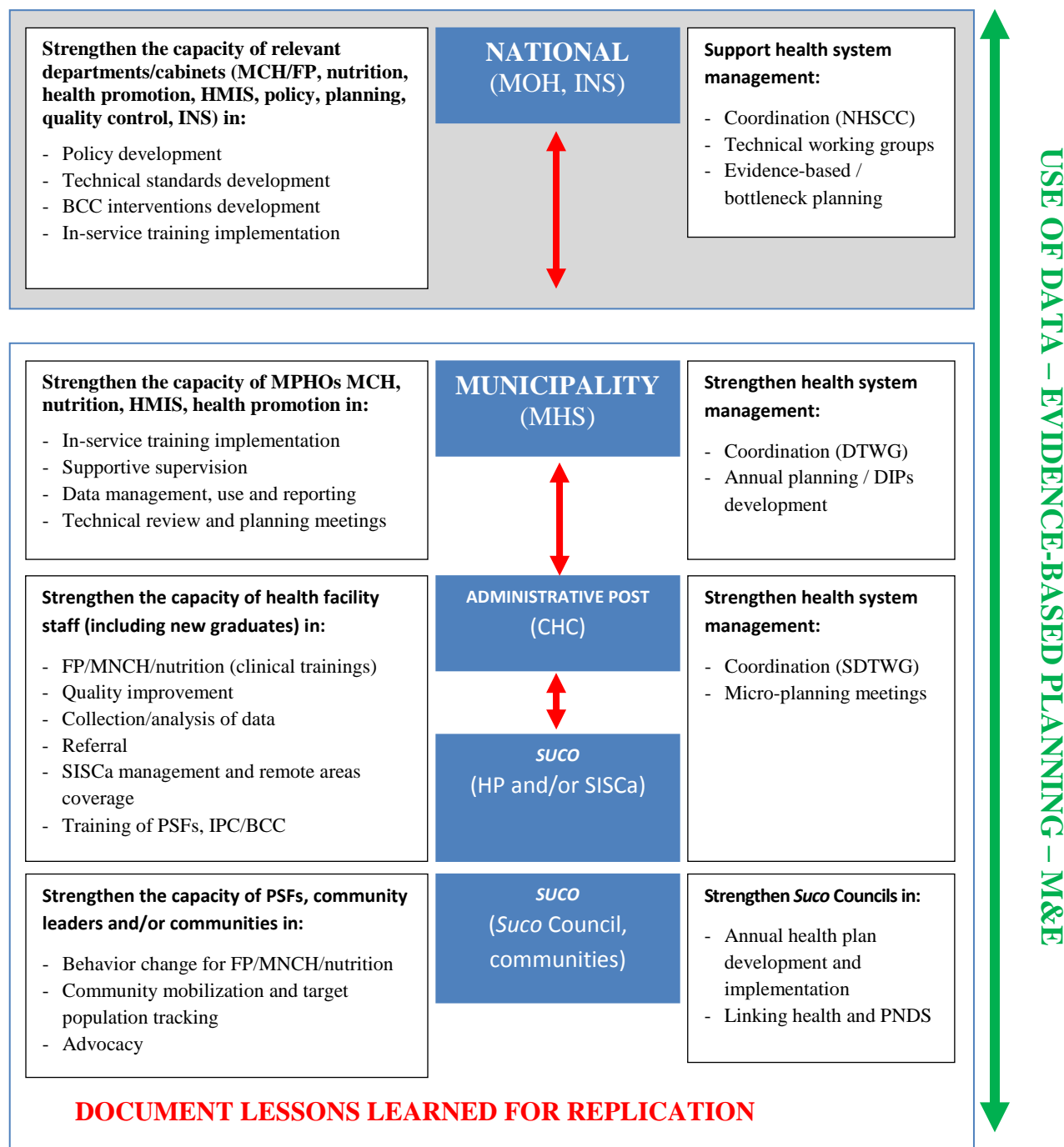
1. DESCRIPTION OF ACTIVITIES AND RESULTS

To improve the quality of services and increase utilization of health services (MNCH-focused and FP-focused), HIP employed one or more of the four main approaches previously cited to support:

- **Service Quality Improvement:** A mix of quality improvement interventions, such as skill development and facility upgrade, aimed at providing health workers with the means to provide services with quality.
- **Utilization of Services:** demand creation and community participation interventions working with beneficiaries, health personnel or existing community structures such as suco councils aimed at increasing utilization of services.
- **Evidence Based Practices:** the project utilized a strong planning dimension to ensure that all levels of interventions were based on evidence and data, and planned for, implemented and monitored. An ongoing human capacity-building emphasis across the three approaches mentioned above —at the core of HIP’s vision—aimed at “improving the ability of a person, group, organization or system to meet its objectives or perform better” as defined by USAID (see 1.1. below).

Early on in the project, a diagram displaying the provision of TA at all levels (national, municipality/region, administrative post, and *suco*) was developed and remained one of the main guides during the four years. It displayed TA in terms of support to specific programs as well as support to strengthening the system. See Figure 2.

Figure 2: Provision of technical assistance at all levels - package of support interventions



1.1. Human capacity development

The human factor is a critical component in any capacity or change process. Human resources in the health sector, such as health care providers, health facility managers, health advocates, and other health system support personnel, are crucial to the advancement and sustainability of the health system.

Human capacity development—both individually and collectively—has been at the core of all HIP activities. HIP’s strategy took into consideration that for health personnel to be effective, they first had to have the knowledge and skills to perform effectively and second, had to be in an environment with appropriate supplies and materials to perform their work effectively.

A health system requires a sufficient number of motivated staff with appropriate competencies to fulfill the essential health care provision and management functions. They also need to be empowered with decision making skills to positively impact health operations.

As the health sector in Timor-Leste is decentralized, emphasizing the expansion of PHC and increased community involvement, ensuring a skilled, knowledgeable, and responsive workforce is of an increasingly critical importance. Strengthened and sustainable health systems and organizations cannot be achieved without the facilitating factor of human capacity.

Therefore, while HIP’s strategy specifically focused on building the capacity of health personnel through strengthening knowledge and skills while supporting performance, HIP simultaneously strengthened organizational and system capacity. These joint activities served as a mutually reinforcing mechanism to create an environment where health personnel could function more effectively.

To address the first dimension (health personnel dimension), HIP focused on increasing workforce effectiveness and performance management. It did so through two primary activities: training and collaborative skills transfer through coaching and mentoring; both types of activities were used in all health personnel capacity development activity implementation.

Training

Through collaboration with the MOH and INS to implement training-of-trainers (TOTs) and support training courses, HIP focused on building knowledge and skill sets in key areas related to the project areas of MNCH and FP. This approach harnessed and strengthened existing in-country training competence by equipping trainers with the skills needed to ensure future in-country training opportunities and related training follow-up. Further, by measuring training effectiveness via knowledge and skills testing, HIP helped to ensure a quality training approach leading to practical competency

Skills transfer through coaching and mentoring³

Engaging with a Ministry of Health counterpart on all HIP-supported activities provided the opportunity to ensure solution-oriented, individual assistance was imparted throughout activity implementation. This could take the form of advising counterparts as well as guiding “learning-by-doing” opportunities. This approach permitted skills to be learned, practiced, and reinforced through a collaborative and reoccurring forum.

While training was often a discrete activity, the coaching and mentoring process was integrated into every activity that was implemented through or supported by the project. For example, supportive supervision was completed in collaboration with MOH counterparts using MOH supervision tools. Working with counterparts on these activities provided opportunities to support learning and application of the tools (a “learn-by-doing” approach to transfer skills) while providing troubleshooting assistance or guidance as needed to ensure these skills were exercised. A key feature of this approach was the focus on the enhancement and strengthening of existing human capacities, with an emphasis on the importance of a partnership or participatory approach.

The second dimension (health systems dimension)—which refers to an appropriately supplied and managed environment to perform work effectively—was addressed through activities for QI, planning and M&E, and community engagement on health communication. For example, the MOH checklists for facility readiness were implemented as an activity under the QI approach. The checklists were used to identify gaps and help create a facility environment that met basic standards in terms of equipment, supplies, materials, and management procedures. A better equipped and functioning site allowed health personnel to utilize their skills more effectively to ensure better health outcomes for clients.

Finally, it is important to note that HIP considered human capacity development one component of a multi-dimensional, integrated project approach to capacity development. While individuals can function independently, all other components of a system—providing health care services, managing a health facility, ensuring quality practices, procedures, and protocols are followed, etc.—require a qualified human element to do so.

Please refer to the technical brief entitled “Building Capacity to Improve Maternal, Newborn, and Child Health and Family Planning Outcomes” in Annex 2.

³**Coaching is task oriented.** The focus is on concrete issues, such as managing more effectively, speaking more articulately, and learning how to think strategically.

Mentoring is relationship oriented. It seeks to provide a safe environment where the mentoree shares whatever issues affect his or her professional and personal success. Although specific learning goals or competencies may be used as a basis for creating the relationship, its focus goes beyond these areas to include things, such as work/life balance, self-confidence, self-perception, and how the personal influences the professional.

Coaching is performance driven. The purpose of coaching is to improve the individual's performance on the job. This involves either enhancing current skills or acquiring new skills.

Mentoring is development driven. Its purpose is to develop the individual not only for the current job, but also for the future. This distinction differentiates the role of the immediate manager and that of the mentor. (Adapted from Management Mentors).

1.2. Quality improvement

Quality improvement⁴ was employed by HIP to strengthen systems capacity. This approach focuses on providing health and management personnel with the necessary means to provide quality services. Activities improving QI primarily focused on skills reinforcement personnel and improvements to the functionality of the facilities.

Improving quality of care and services requires defining minimum standards and mechanisms to implement those standards. Health providers must then be trained on those standards, with performance measured periodically through agreed upon indicators. When the performance level does not meet the expected standard, methods to improve quality can be implemented.

Following these principles, HIP supported the MOH, INS, and Municipality Health Services (MHS) in the implementation of several QI interventions established by the MOH. This included the conduct of supportive supervision for facility readiness and for specific MNCH programs, the provision of in-service training on evidence-based clinical guidelines, and subsequent follow up after training (FUAT). Aside from supportive supervision and training FUAP, HIP supported the MOH in the introduction of NASG as an innovative intervention to improve the management of postpartum hemorrhage (PPH).

HIP initially designed a health facility survey (HFS) to be conducted as a baseline in the focus municipalities/region. Through coordination with health stakeholders—mainly the National Health Sector Strategic Plan Support Project (NHSSP-SP) and the Global Fund to fight AIDS, Tuberculosis and Malaria—the HFS concept expanded to a nationwide HFS. The MOH issued a sole source request for proposal (RFP) to JSI to conduct the national HFS as well as to redesign the BSP and logistics management system. Several meetings were organized with key stakeholders to determine their needs and expectations. The HIP team collaborated closely with several consultants from JSI to draft a proposal in response to the MOH’s RFP. The proposal was submitted to the MOH and presented to the health partners’ meeting in November 2012. However, the survey could not be realized due to a series of changes in the MOH, including a new Minister, Vice-Ministers, and key managers. As described below in the supportive supervision section, HIP then decided to constitute its baseline using existing MOH data and tools.

1.2.1. Supportive supervision

While clinical training is necessary to improve competency, supportive supervision is an effective means of improving quality of care and ensuring health providers implement what

⁴ Quality is the degree to which a service meets or exceeds established professional standards and user expectations (adapted from HRSA HIV/AIDS Bureau). Quality improvement goes through repetitive cycles of measuring performance, testing change concepts and then re-evaluation of outcome measures (adapted from www.taim.org). “A quality of care indicator is a measurement of a specific aspect of patient care meant to evaluate the extent to which a facility provides or achieves a particular element of care”. *(Adapted from NY Dept. of Health AIDS Institute (2006).

they learn through training. MOH programs developed a range of supportive supervision checklists, from the broad facility readiness format (FRF) looking at all aspects of the facility (human resources, infrastructure, equipment, documentation, etc.) to more specific program checklists for MNCH including FP. These checklists provided HIP with a baseline to measure quality improvements at the health facility level.

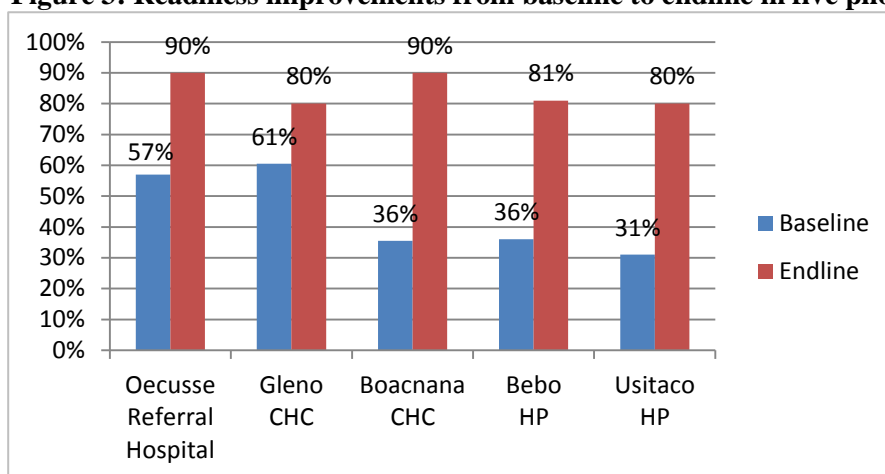
a) Facility readiness supportive supervision

Background

Early 2013, the MOH developed the facility readiness formats (FRFs), three checklists composed of selected standards to be used by managers to assess and improve HPs, CHCs and referral hospitals' capacity to provide basic services. Implemented in the form of supportive supervision visits⁵, the tools include the basic components required to ensure quality services at a health facility, such as trained human resources; adequate infrastructure with running water, electricity and sanitation; equipment, drugs and materials; laboratory tests; registers; management tools; and cleanliness.

The FRFs were field-tested between April and July 2013 in five facilities from HIP-focused municipalities/region: two HPs (Usitaco and Bebo, Oecusse region), two CHCs (Gleno, Ermera municipality and Boacnana, Oecusse region) and one referral hospital (Oecusse region). Supportive supervision was provided twice in each facility (in the form of a baseline and endline), with intensive TA in between. The results demonstrated the effectiveness and potential of the tools: on average the facilities increased their 'readiness' from 44% to 84% (see Figure 3) thanks to a series of activities supported by a collaboration between MOH and partners including HIP, St. John of God Health Care (SJOG), and for infrastructure renovations, the U.S. Navy Seabees and the Timorese armed forces, the *Falintil-Forsa Defesa Timor-Leste* (F-FDTL – Falintil-Timor-Leste Defense Forces).

Figure 3: Readiness improvements from baseline to endline in five pilot facilities



⁵ Supportive Supervision is one of the three components of the MOH Monitoring and Evaluation Guideline. The two others are the Progress Cards (a set of key indicators to be reported upon quarterly) and the Community Monitoring.



Usitaco health post, newly renovated by US Navy Seabees.



Boacnana CHC FP room re-organized with HIP's technical assistance.



Oecusse Referral Hospital's sinks did not function in early 2013. After water was repaired by US Navy Seabees and F-FDTL, sinks were cleaned and set up to ensure hygiene and infection prevention through hand washing.



Early 2013, Gleno CHC's family cards filing was not efficient. With new shelves built by US Navy Seabees and HIP's TA for re-organizing the filing, the effectiveness of the registry of out-patients was improved.



During rainy season, access to Gleno maternity with ambulance was impossible. Adding gravel from the main road to the entrance of the maternity ensured access throughout the year.

Following these results, HIP—in coordination with WHO and the NHSSP-SP—assisted the MOH in the full implementation of the FRFs in Ermera, Manatuto and Oecusse. In early 2014, facility readiness supportive supervision was conducted in 69 health facilities by MOH and MHS managers along with community leaders. Together they observed the condition of the health facilities to identify how the community could also contribute to their improvement. On average, HPs scored low (35%), CHCs scored higher (67%), and Oecusse Referral Hospital maintained the standards achieved during the pilot (93%). The main issues observed by supervisors concerned all components of the FRFs, and while some improvements required additional funding or external support (human resources, infrastructure and equipment); others were more easily fixable with technical assistance (skills, cleanliness, updating of registers, etc.).

To better delineate the actions needed by the MHS, the MOH, and other entities (community leaders and other state departments) to improve facility readiness, each municipality/region organized a workshop involving all levels of MOH. Between February and April 2014, three workshops were conducted and attended by MOH personnel from the health facility to national level, resulting in 65 health facility improvement plans, outlining short-term, mid-term, and long-term actions to increase their readiness to provide services. The multi-sectoral aspect of the workshops was particularly important as most facilities showed low scores in the infrastructure section; under the decentralized system, renovation funding should mainly be initiated by *suco* chiefs. As noted by Manatuto Municipality Administrator at the workshop's opening, *“Now several funding mechanisms can be used for health at suco level, such as the decentralized district planning program or the national program for suco development. This is why I am very happy to see workshop like this taking place, in order to promote inter-sectoral collaboration in Manatuto.”*



Group work photos showing the intensive discussions taking place to improve CHCs, HPs and the Regional Hospital's readiness to provide quality services in Oecusse region.

During the months following the workshops, facilities implemented the action plans with continuous support from the MHS through one or two more rounds of supportive supervision visits. The data from the last visits in 2014 were showing significant improvements, with the HPs achieving 58% on average (a 23% increase) and CHCs 80% (a 13% increase). Month after month, key activities implemented by health facilities included completing new medicine requests, displaying new health promotion materials on the walls, updating the registers,

developing management tools, and organizing regular cleaning. From the MHS side, new equipment stored at the municipality level was distributed and assembled, health facilities' requests were addressed more quickly and on-the-job training was provided. In the three municipalities/region, 26 facilities underwent renovations with various funding including from the *Programa Nasional Dezenvolvimentu Suco* (PNDS – National Program for *Suco* Development), the *Pakote Dezenvolvimentu Desentralizadu* (PDD – Decentralized Development Package) and the *Planu Dezenvolvimentu Integradu Distritu* (PDID – Integrated District Development Plan). Most of the renovations had been planned during the workshop. For example, the population from Bobometo *suco* (Oecusse region) selected the renovation of Tumin HP with PNDS funding. Concrete results are presented below.

Following these three workshops, HIP supported the MOH in the organization of a national level workshop so that the successful example from the three municipalities/region could be expanded into a national program covering the remaining ten municipalities. HIP assisted three other municipalities (Lautem, Manufahi and Dili) in this scale-up process.



Following the success of Ermera, Manatuto and Oecusse workshops, the Minister of Health and both Vice-Ministers participated in the national workshop to support the scale-up of the facility readiness supportive supervision country-wide.



During the national workshop, Bobometo *Suco* Chief (Oecusse region) explained how accompanying supportive supervision visits opened his eyes on the need to look for additional funding for health facilities renovations.

A year after the first workshops, while the national scale up was still being implemented, HIP provided TA for the organization of the second workshops in Ermera, Manatuto, and Oecusse. Capitalizing on the effectiveness of the 'action planning concept', MOH added three components or sets of data to the action plan templates: quality of service (using specific MNCHP supportive supervision data), coverage for specific programs like safe motherhood (SM), essential newborn care (ENBC) and FP (using health management information system's data), and research findings (using the Maternal Health Three Delays Study data – see 3. Important Research Findings). The results from these second workshops are described under 1.3.1. Evidence-based planning, Box 8: municipality/region planning).

Please refer to the Technical Brief: "Facility Readiness Format: Improving Service Delivery at Health Posts, Health Centers, and Hospitals" found in Annex 3.

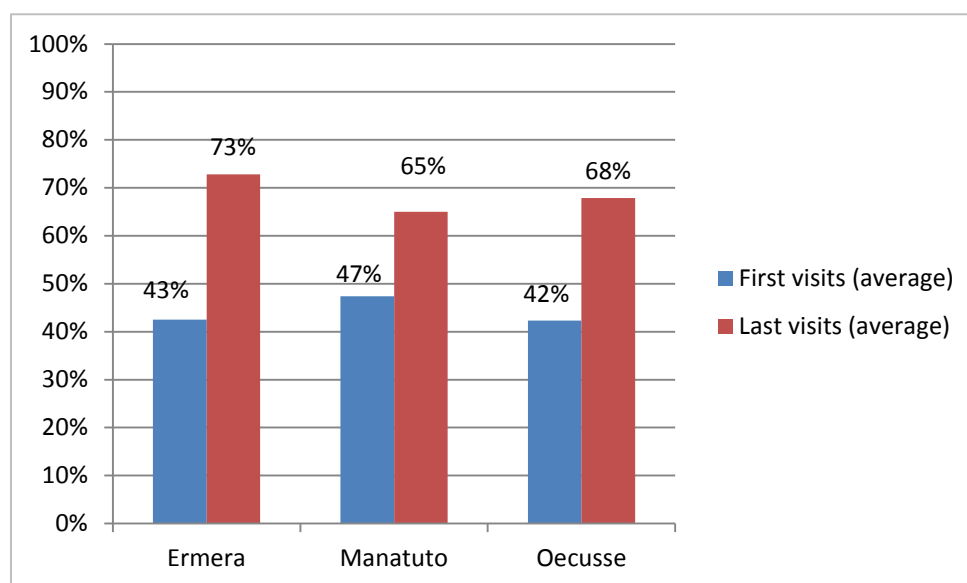
Results

During the life of the project, HIP collaborated on 253 supportive supervision visits using the FRF (Table 1). Out of 75 MOH facilities in the three municipalities/region, 73 have been visited and 68 were re-visited after improvement actions were implemented. Figure 4 shows the average improvement by municipality/region from the first visit (January 2014) to last visit (2015). Overall average gains per municipality/region range from about 20% to 30%.

Table 1: Number of supportive supervision visits using the FRF by municipality/region and by facility level

Location	HP	CHC	Hospital	Total
Ermera	71	26	0	97
Manatuto	62	24	0	86
Oecusse	54	14	2	70
Total	187	64	2	253

Figure 4: Average first compared to average most recent facility readiness scores by municipality/region



Box 1: FRFs sub-sections

The FRF for CHCs is composed of the following five sub-sections:

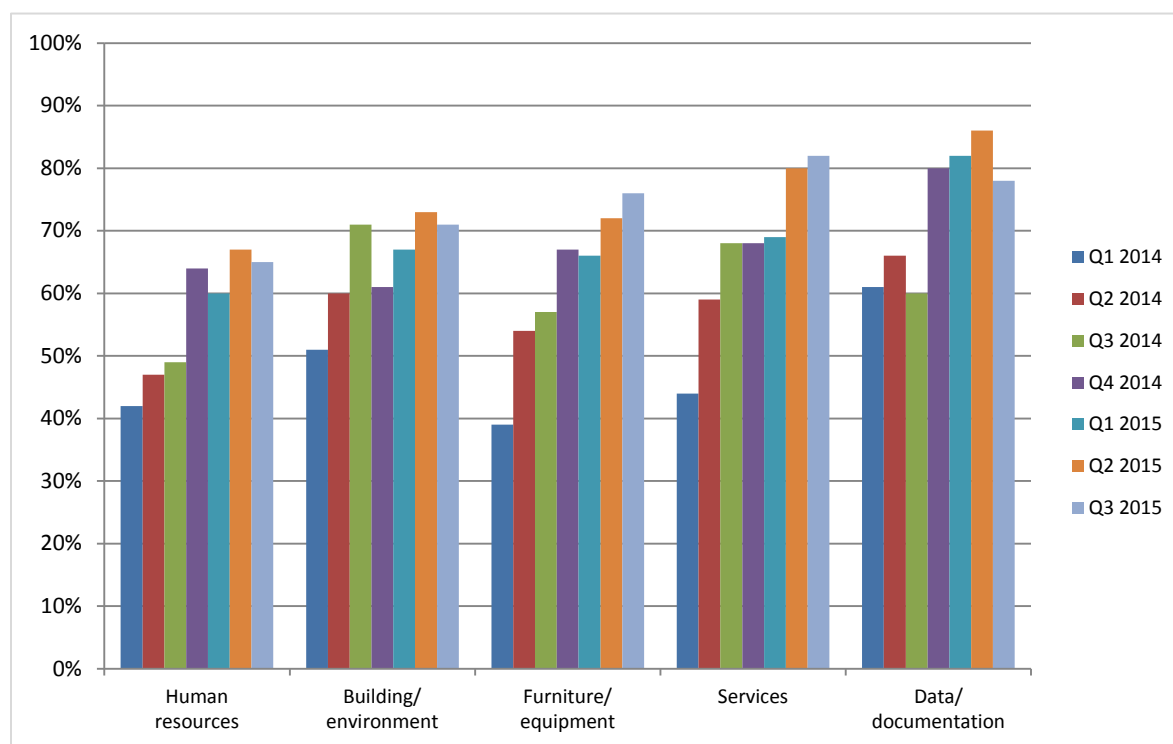
1. Human Resources: (1) HR and (13) Skills
2. Building/Environment: (2) Building, (3) Electricity, (4) Water, (5) Toilets, (17) Cleaning room/equipment, (20) Quality of water at health facility
3. Furniture/Equipment: (6) Condition of emergency/observation room, (7) Furniture in OPD, (8i) Equipment OPD, (8ii) Equipment delivery room, (8iii) Equipment OT/Ward/Vaccination
4. Services: (9) Lab services, (10) BCC materials, (11) Other programs, (12) Drugs, (16) Referral services, (18) SISCa
5. Data/Documentation: (14) Monthly meeting, (15) Register, (19) Ratio Maternal Mortality (MDR) and Infant Mortality (IDR)

The FRF for CHCs is composed of the following five sub-sections:

1. Human Resources: (1) HR and (11) Skills
2. Building/Environment: (2) Building, (3) Electricity, (4) Toilets, (14) Overall cleanliness
3. Furniture/Equipment: (5) Furniture, (6i) Equipment OPD, (6ii) Equipment labor room, (6iii) Equipment OT/Internment room/Vaccination
4. Services: (7) Lab services, (8) BCC materials, (9) Other programs, (10) Drugs, (13) Referral services, (15) Mobile clinic
5. Data/Documentation: (12) Register, (16) Ratio Maternal Mortality (MDR) and Infant Mortality (IDR), (17) epidemic control

Figure 5 shows the average scores of the sub-sections of the FRF (see Box 1) by quarter. While subsequent quarters may not necessarily represent re-assessment of exactly the same facilities, we can clearly see an upward trend in each sub-section.

Figure 5: Average facility readiness scores by section - all three municipalities/region



In Ermera municipality, HIP supported the MHS in the conduct of 97 supportive supervision visits using the FRF (see Table 2 for details per administrative post and per quarter). As described above, a response was formulated to the initial scores and implemented, after which a follow-up visit was done. Out of 26 MOH facilities, only one received one supervision visit (Leimea Craik HP); all other facilities received at least two visits. As in all municipalities/region, scores for CHCs tend to be higher than those for HPs. Facilities responded well to improvement interventions, especially those with more scope for improvement.

Table 2: Number of facility readiness supportive supervision visits conducted in Ermera municipality

Location	Number of supportive supervisions using FRF						
	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015
Atsabe	4	4	4	0	3	1	1
Ermera	5	4	0	4	2	1	0
Gleno	3	2	1	2	1	1	0
Hatolia	4	4	1	3	2	5	2
Letefoho	6	3	2	1	4	1	3
Railaco	3	1	2	1	3	2	1
Total	25	18	10	11	15	11	7

The overall scores for facilities in Ermera municipality are presented in Figure 6, showing a constant upward trend quarter by quarter. The same trend is observed for the average score of all facilities by section (Figure 7). Significant improvements can also be observed at each of the administrative posts.

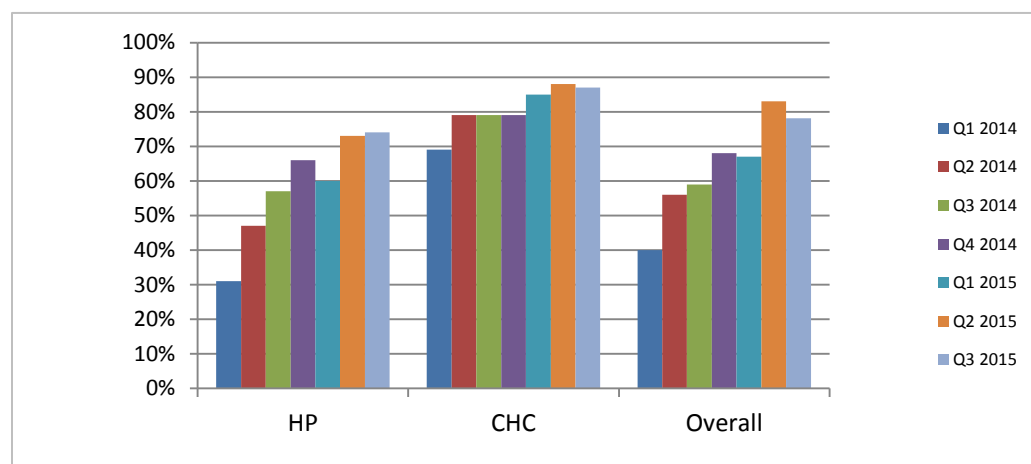
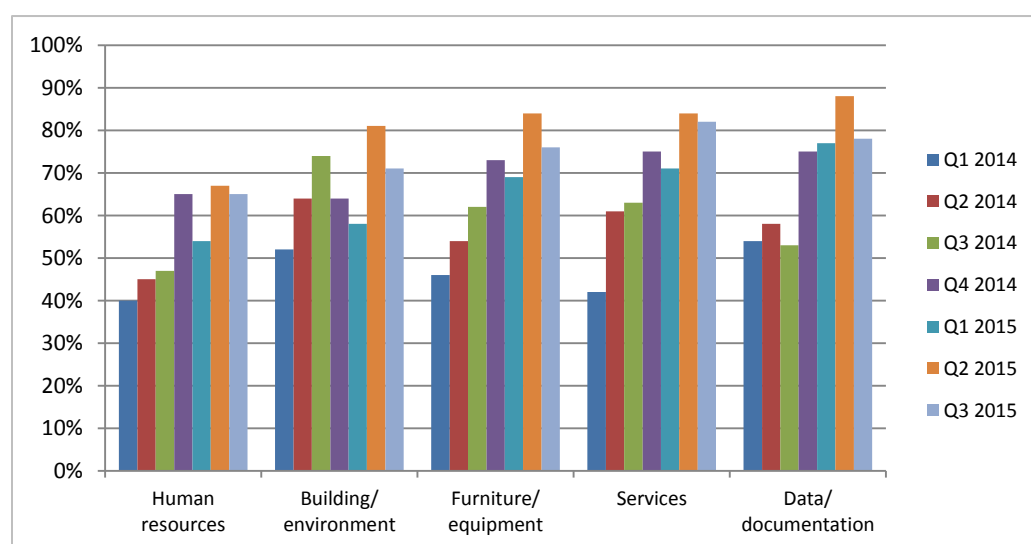
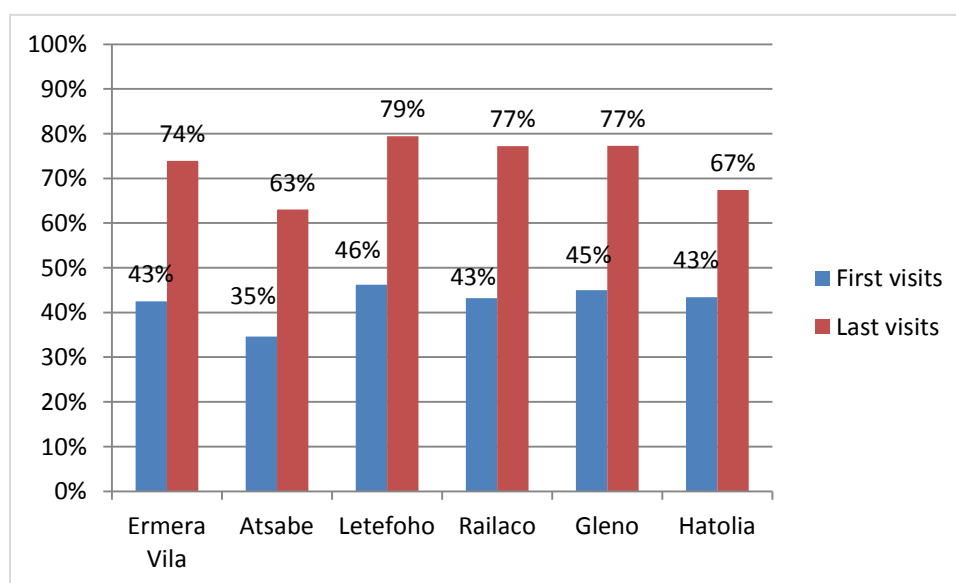
Figure 6: Average facility readiness scores in Ermera municipality (by level and by quarter)**Figure 7: Average facility readiness scores by section – Ermera municipality**

Figure 8 compares the average (across all facilities) first scores with the average most recent scores by administrative post. It shows that all administrative posts have increased by at least 20% from first to last visit.



MOH M&E Department Head and Ermera municipality health officers conducting facility readiness supportive supervision in Ermera Vila CHC.

Figure 8: Average first compared to average most recent facility readiness scores by administrative post, Ermera municipality

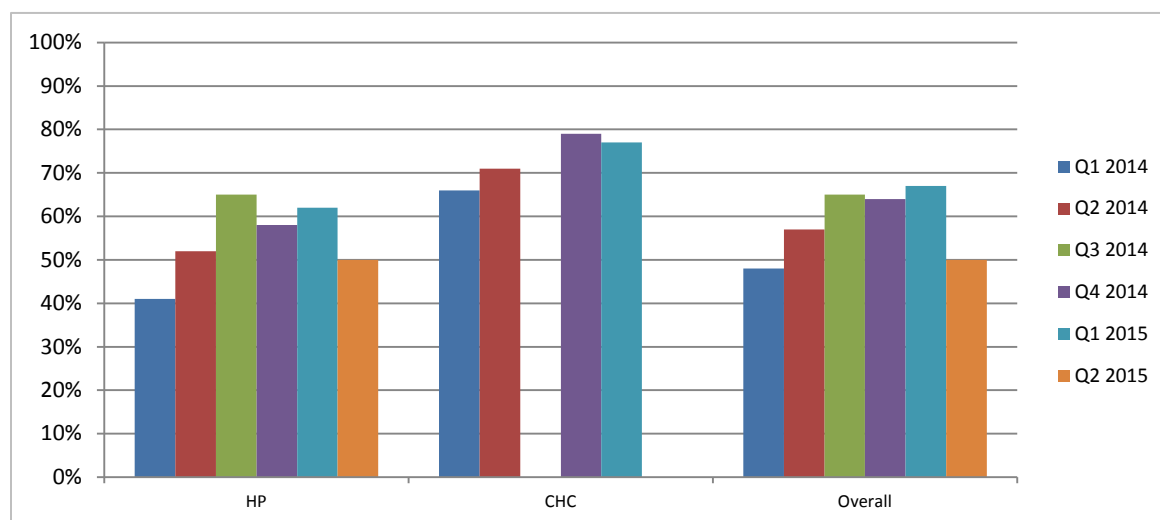


In Manatuto municipality, HIP supported the MHS in the conduct of 86 supportive supervision visits using the FRF (see Table 3) for details per administrative post and per quarter). Out of 25 facilities in Manatuto municipality, two were not assessed (Pualaka HP does not have any staff and Fatumakerek HP is inaccessible by car) and one was only assessed once; 22 facilities had at least one second visit. Supportive supervision did not take place during the last quarter of the project due to the immunization campaign and office close out. As in all municipalities/region, scores for CHCs tend to be higher than those for HPs. The response to improvement interventions seems to be more modest compared to Ermera municipality and Oecusse region.

Table 3: Number of facility readiness supportive supervision visits conducted in Manatuto municipality

Location	Number of supportive supervisions using FRF					
	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015
Manatuto	3	4	0	4	3	0
Natarbora	4	4	0	4	4	0
Laclo	5	4	0	4	3	0
Laclubar	5	4	1	5	4	1
Laleia	2	2	0	2	2	0
Soibada	3	3	0	3	3	0
Total	22	21	1	22	19	1

The average scores for facilities in Manatuto municipality are presented by level and by quarter in Figure 9⁶. Figure 10 shows the average score of all facilities by section. Data/documentation seems to be the stronger section. While furniture and equipment and services initially were the weaker sections, they seem to be picking up well.

Figure 9: Average facility readiness scores in Manatuto municipality (by level and by quarter)

⁶Note: The Q1 2015 bars are based on the assessments of 19 different facilities in the district, while the Q2 2015 bars are based on the assessment of a single HP (Sananain). The blue Q1 bars therefore show a more realistic picture of the situation at district level, compared to the orange Q2 bars.

Figure 10: Average facility readiness scores by section – Manatuto municipality

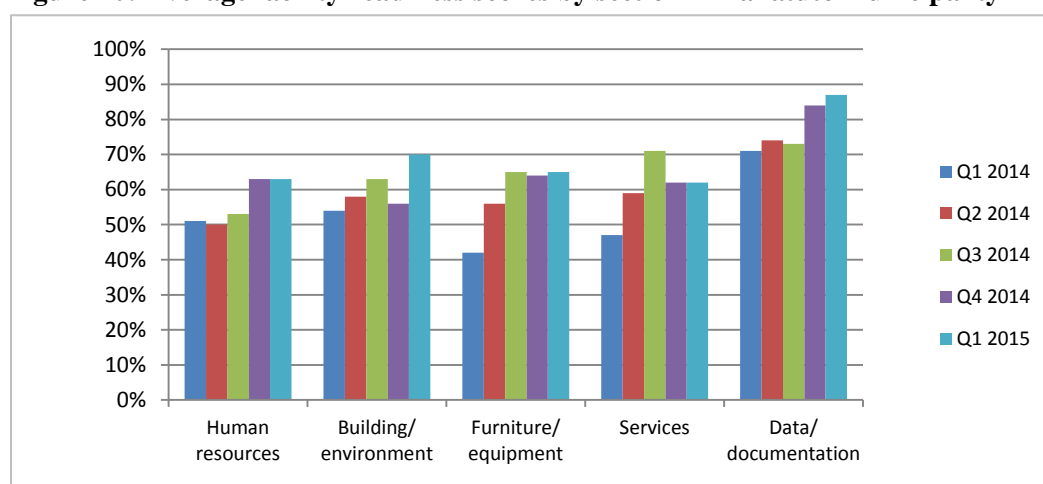
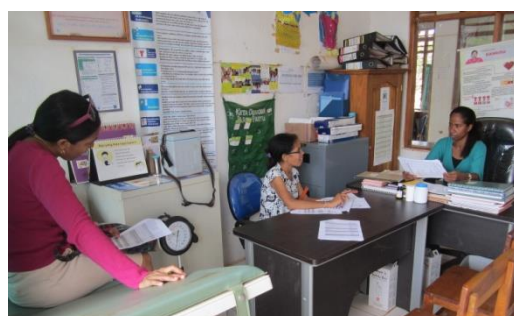
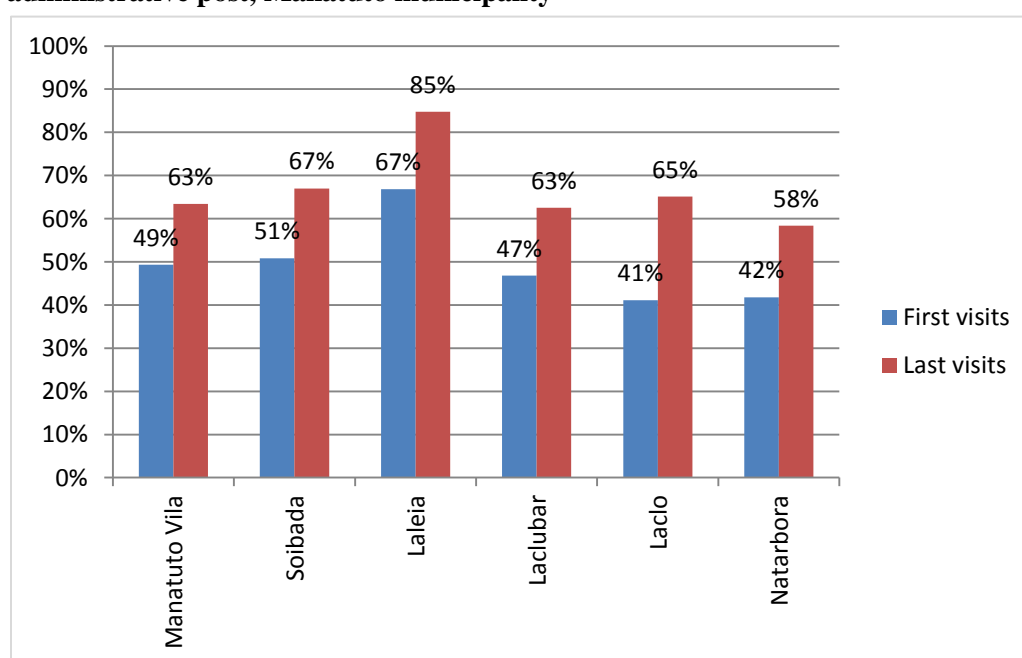


Figure 11 compares the average (across all facilities) first scores with the average most recent scores by administrative post. Administrative posts averages are quite similar with the exception of Laleia administrative post that scores markedly higher.

Figure 11: Average first compared to average most recent facility readiness scores by administrative post, Manatuto municipality



Manatuto municipality health officers conducting facility readiness supportive supervision in Laclo CHC, Manatuto municipality.

In Oecusse region HIP supported the Regional Health Services in the conduct of 70 supportive supervision visits using the FRF (see Table 4 for details per administrative post and per quarter). All facilities in Oecusse region were visited and out of a total of 23 facilities, 21 were visited at least two times. As in all municipalities/region, scores for CHCs are higher than those for HPs. Facilities responded well to improvement interventions, especially those with more scope for improvement.

Table 4: Number of facility readiness supportive supervision visits conducted in Oecusse region

Location	Number of supportive supervisions using FRF					
	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015
Boacnana	6	0	5	2	2	2
Oesilo	3	2	2	0	0	1
Pante Makasar	9	3	6	4	3	8
Passabe	3	2	1	0	3	1
Referral Hospital	1	0	0	1	0	0
Total	22	7	14	7	8	12

The overall scores for facilities in Oecusse region are presented in Figure 12, showing a clear upward trend quarter by quarter. A similar trend is observed for the average score of all facilities (excluding the referral hospital) by section (Figure 13). Human resources and furniture and equipment sections seemed to have weaker results; however the latest measurements indicate that these areas are showing signs of improvement. Significant improvements can also be observed at each of the administrative posts.

Figure 12: Average facility readiness scores in Oecusse region (by level and by quarter)

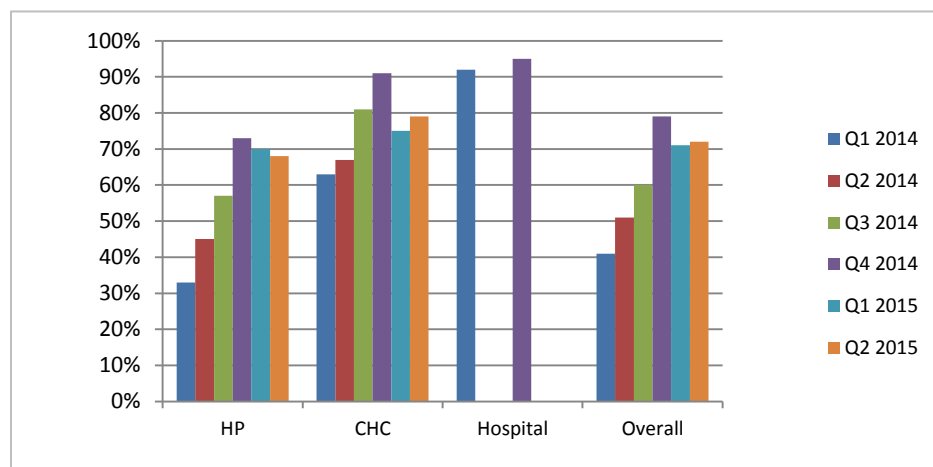
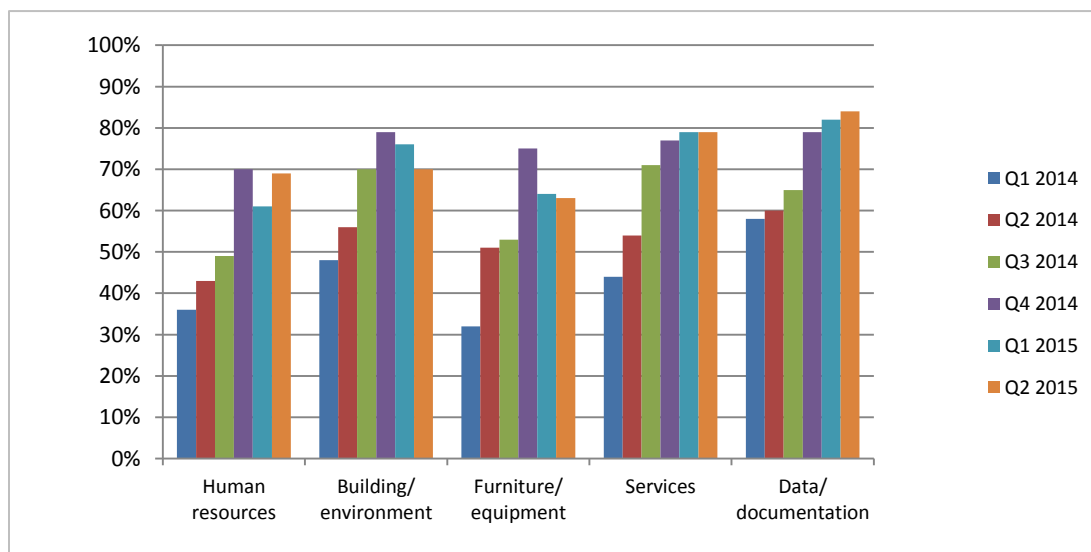


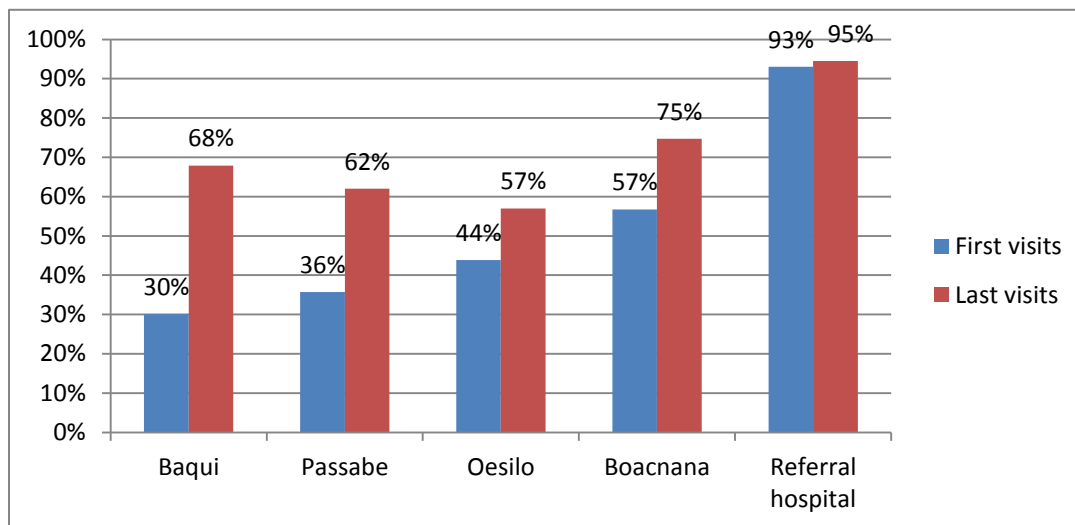
Figure 13: Average facility readiness scores by section – Oecusse region



Municipality health officer for maternal and child health conducting supportive supervision in Malelat HP, Oecusse municipality.

Figure 14 compares the average (across all facilities) first scores with the average most recent scores by administrative post. It shows that all administrative posts have significantly increased their scores from first to last visit, with results ranging from around a 20 to 40% increase.

Figure 14: Average first compared to average most recent facility readiness scores by sub-region, Oecusse region



The work of HIP to assist the MOH to link the FRF and supportive supervision has been an important method for reinforcing most of the key components of the supply side of the capacity development dimensions. By formally using national tools to measure facility circumstances and plan for needed improvements, the focus on quality services is reinforced and sustainability is more likely.

b) Programmatic supportive supervision

Background

As planned from the start of the project, HIP built on the success of Integrated Management of Childhood Illnesses (IMCI) supportive supervision implemented during the *Timor-Leste Asistencia Integrada Saúde* (TAIS-Timor-Leste Integrated Health Assistance).⁷ This introduced a new form of supervision in the MOH where supervisor and supervisee looked together for solutions of problems identified from a set of quality indicators. Early on, HIP assessed the appropriateness of existing supportive supervision tools for MNH—a SM/ENBC and a FP checklist developed with TAIS support—and supported their implementation in the focus municipalities/region. Later on in the project, in 2013, the Expanded Program on Immunization

⁷ While IMCI supportive supervision scores were high before 2012, a decrease occurred during the months following HIP start for the following reasons: (1) no one was in charge of the program at the national level during a period of more than two years; (2) several IMCI-trained nurses left to continue their studies in Indonesia (supported by Government); and (3) consultations for children were given to the newly-graduated doctors who had not yet received any IMCI training.

(EPI) checklist developed with *Imunizasaun Proteje Labarik* (IPL – Immunization Protects Children)⁸ support was introduced in HIP-focus locations.

In 2013, the MOH institutionalized supportive supervision in its M&E Guidelines, which defines it as “a process that promotes quality at all levels of the health system by strengthening relationships within the system, focusing on the identification and resolution of problems, and helping to optimize the allocation of resources—promoting high standards, teamwork, and better two-way communication”.⁹

Supportive supervision in Timor-Leste is conducted by the Municipality Public Health Officer (MPHO) for Maternal and Child Health (MCH) or her assistant, ideally every quarter. Frequency varies greatly, and depends upon staff and vehicle availability as well as many competing priorities. However, supportive supervision is a cornerstone of MOH quality improvement at service delivery sites. Each component of the checklist is filled together with health facility personnel and corrective actions are agreed upon by both parties. Checklists include observation of consultation and interviews with patients/clients, as well as on-the-job training whenever required and possible. Supportive supervision results are used at two levels. First, results are discussed with the staff of the supervised facility. This discussion leads to an agreement between supervisor and supervisees, outlining actions to be taken by both parties that should lead to actual improvements. HIP encouraged supervising MPHOs to review the outcomes and agreements made during the previous supportive supervision prior to initiating the next one, as well as in providing active follow-up in between supervisions, in order to avoid the same findings being carried over from one supervisory visit to the next.

At a second level, HIP supported annual municipality/regional planning workshops, as a continuation of the FRF workshops mentioned above and described in detail under 1.3.1. and municipality technical working group (MTWG) meeting platform to discuss results and plan improvement actions.

Results

During the life of the project, HIP supported a total of 454 supportive supervision visits for FP (178), IMCI (97), SM/ENBC (137), and for EPI (42) in Ermera and Manatuto municipalities and Oecusse region (Table 5). NASG supportive supervision was also conducted towards the end of the project and its results are discussed in 1.2.3.

Table 5: Number of supportive supervision visits by district and by technical area

Location	FP	SM/ENBC	EPI	IMCI	Total
Ermera	49	32	9	37	127
Manatuto	85	70	17	38	210 ⁽¹⁾
Oecusse	44	35	16	22	117
Total	178	137	42	97	454

⁸ IPL was the Threshold Project on Immunization supporting Timor-Leste to immunize all children against vaccine preventable diseases. The project was implemented by JSI with funding from the Millennium Challenge Corporation (MCC) and USAID.

⁹ Democratic Republic of Timor-Leste, Ministry of Health. 2013. Monitoring and Evaluation Guidelines.

- (1) HIP supported more supportive supervision for MCH in Manatuto municipality because the project's midwife was experienced in supportive supervision. In other locations, HIP had to invest in capacity-building to train its midwives so that they support adequately the MPHOs.

All supervisory visits were performed by the responsible MPHOs with technical support provided by HIP. During the initial stages the more time consuming parts of the supervision (e.g. client interviews, direct observation of consultations) were rarely performed. Over time we saw an increase in the use of these aspects of supportive supervision and an appreciation by MPHOs that they provide vital information and add interesting perspectives to the supervisory activities.

Gains were made in all four technical areas. Figure 15 shows average (across all facilities) supportive supervision scores by technical area and by quarter. While the line graphs show some fluctuations, there is an upward trend for all technical areas.

Figure 15: Average supportive supervision scores across all municipalities by quarter and by technical area (%)

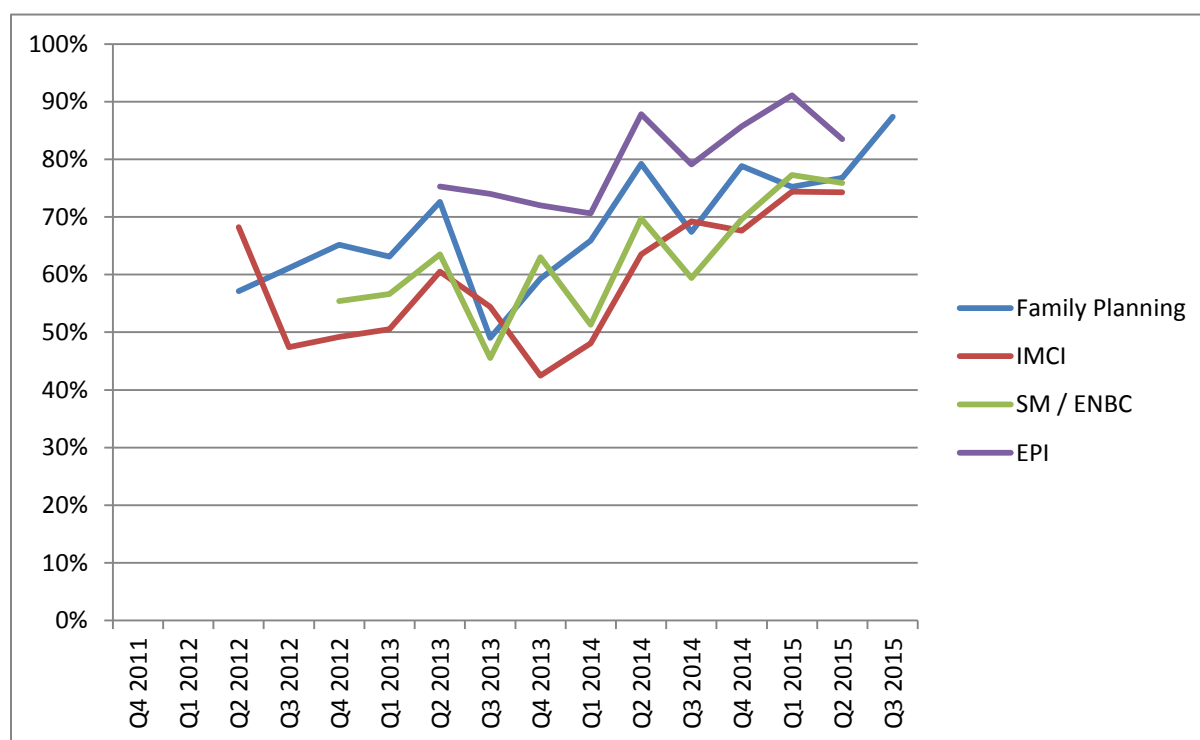
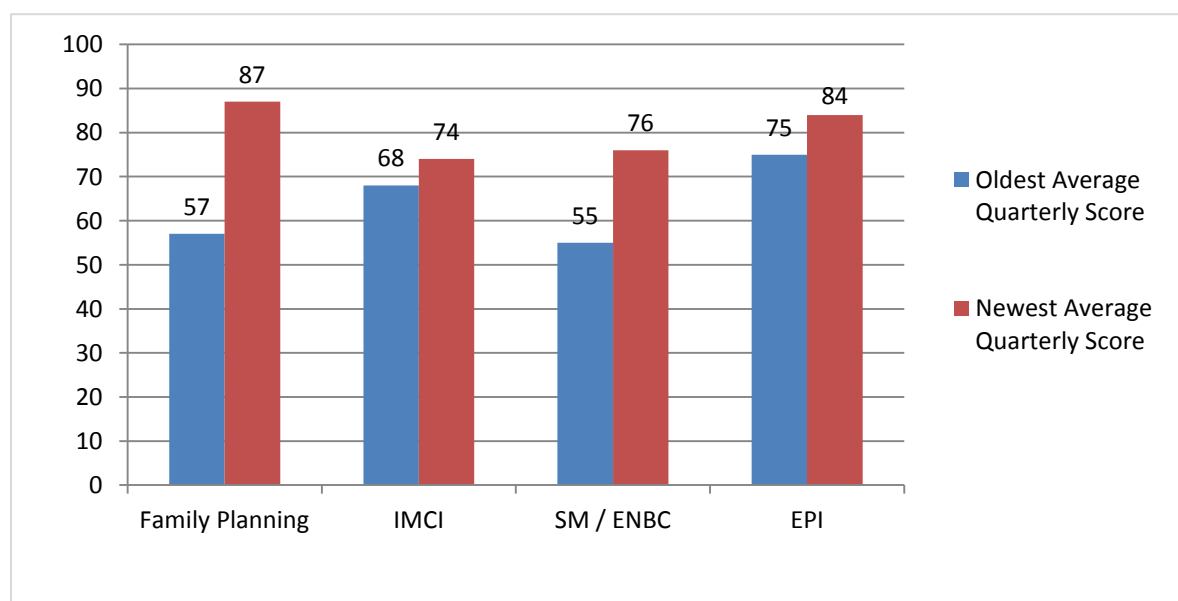


Figure 16 compares the initial quarterly average scores with the most recent quarterly average scores. Net gains appear more modest for IMCI and EPI because of comparatively higher initial scores.

Figure 16: Comparison oldest and most recent average municipality scores (%) – all municipalities



In Ermera municipality, HIP supported a total of 127 supportive supervision sessions for FP (49), IMCI (37), SM/ENBC (32), and EPI (9).

Figure 17 shows the average scores of all supervisions that were performed for a technical area during a certain quarter in the municipality. Although it shows fluctuations primarily due to different facilities being supervised in subsequent quarters, in general the scores show an upward trend with a consolidated score of around 75-80% near the end of the project. As in all municipalities/region, EPI scores initially tended to be higher, while IMCI scores tended to be on the lower side of the spectrum.



Manatuto MPHO for MCH discussing data with Salau HP midwife during supportive supervision.



Ermera MPHO for MCH providing on-the-job training to midwives from Gleno maternity during supportive supervision.

Figure 17: Number of supervisions done per quarter; average score across Ermera municipality by quarter and by technical area

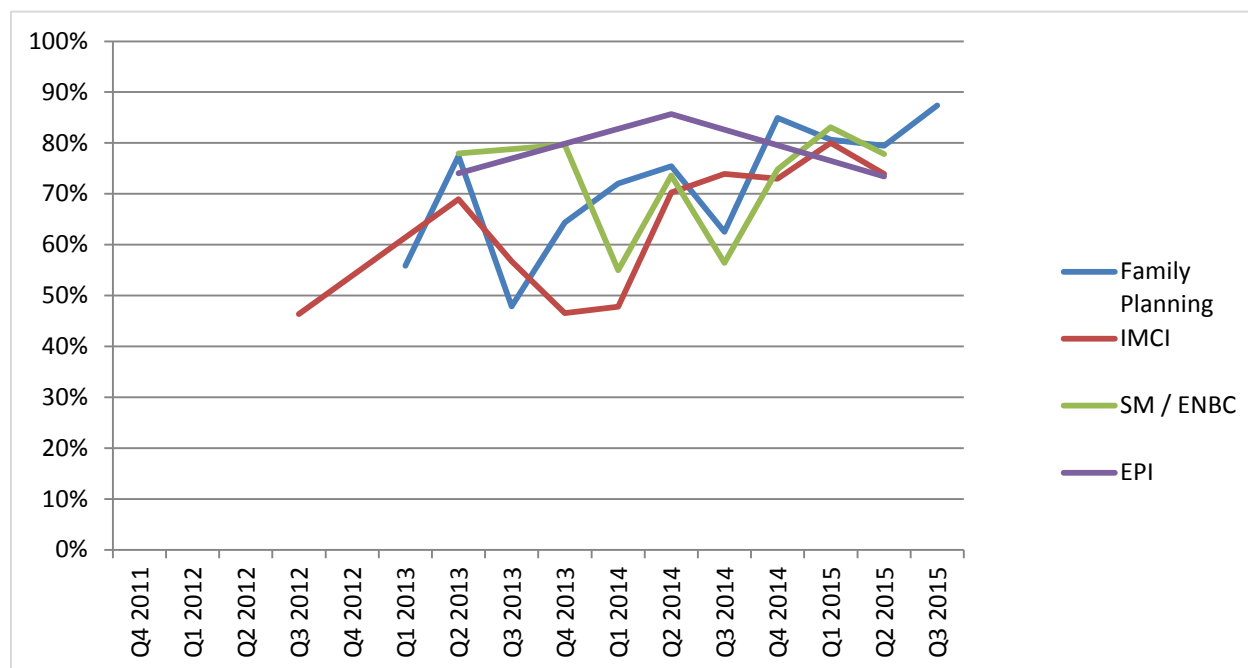


Figure 18 shows an upward trend for FP and IMCI when we compare the oldest quarterly average scores to the most recent quarterly average scores, and stagnation for SM/ENBC and EPI at an elevated level close to the 80% mark.

Figure 18: Comparison oldest and most recent average municipality scores (%) - Ermera

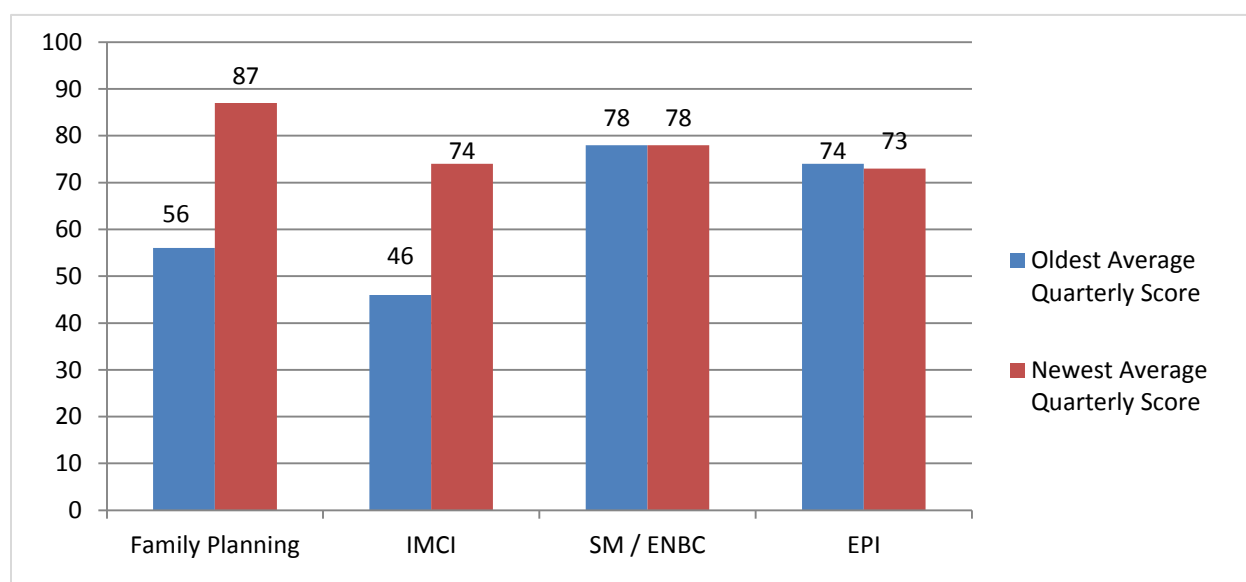


Table 6 lists the most common improvements that were noted over time during follow-up supervisions in Ermera municipality.

Table 6: Noted improvements between earliest and most recent supportive supervisions – Ermera

Technical Area	Improvements
FP	<ul style="list-style-type: none"> • Use of Decision-Making Tool (DMT) flip chart • Availability of Information, Education and Communication (IEC) materials for clients • Clients told recommended birth interval • Counseling in private room • Following of infection prevention requirements • Availability of hand washing facilities
SM/ENBC	<ul style="list-style-type: none"> • Correct use of partograph • % of women receiving Postnatal Care (PNC) • Availability of essential medicines for newborn care • ANC skills
EPI	<ul style="list-style-type: none"> • Proper vaccine reconstitution • Defaulter tracing
IMCI	<ul style="list-style-type: none"> • % of children needing Vitamin A who receive it • Feeding assessment performed if <2 years, anemia, or low weight • % of children not needing an antibiotic that leave without one • Functional Oral Rehydration Therapy (ORT) corner • Correct prescription for antibiotics

In Manatuto municipality, HIP supported a total of 210 supportive supervision sessions for FP (85), IMCI (38), SM/ENBC (70) and EPI (17). Figure 19 shows similar convergence around the 75% mark near the end of the project. As in Ermera, EPI scores are higher and IMCI scores lower.

Figure 19: Number of supervisions done per quarter; average score across Manatuto municipality by quarter and by technical area

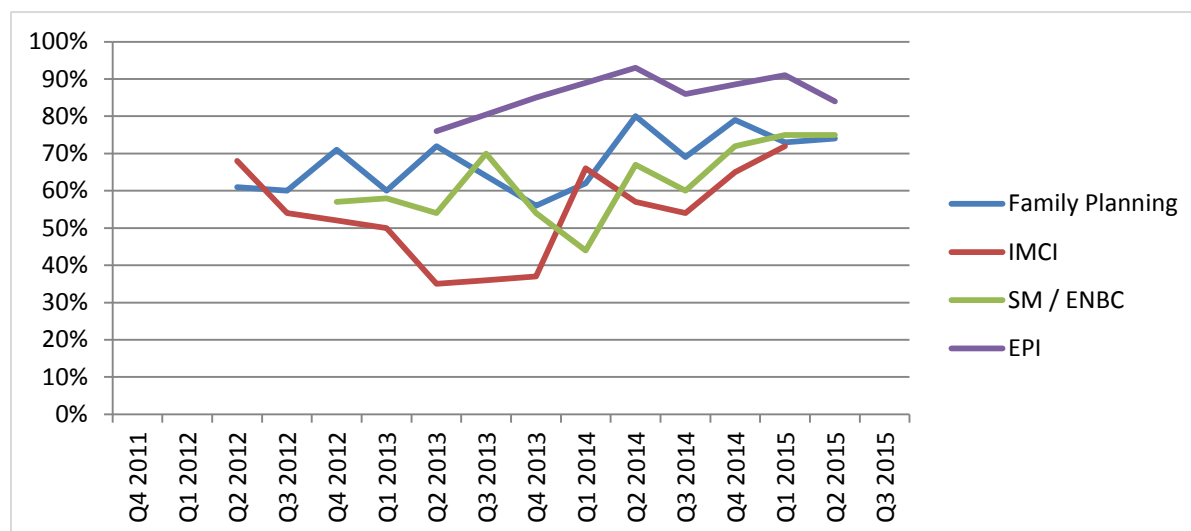
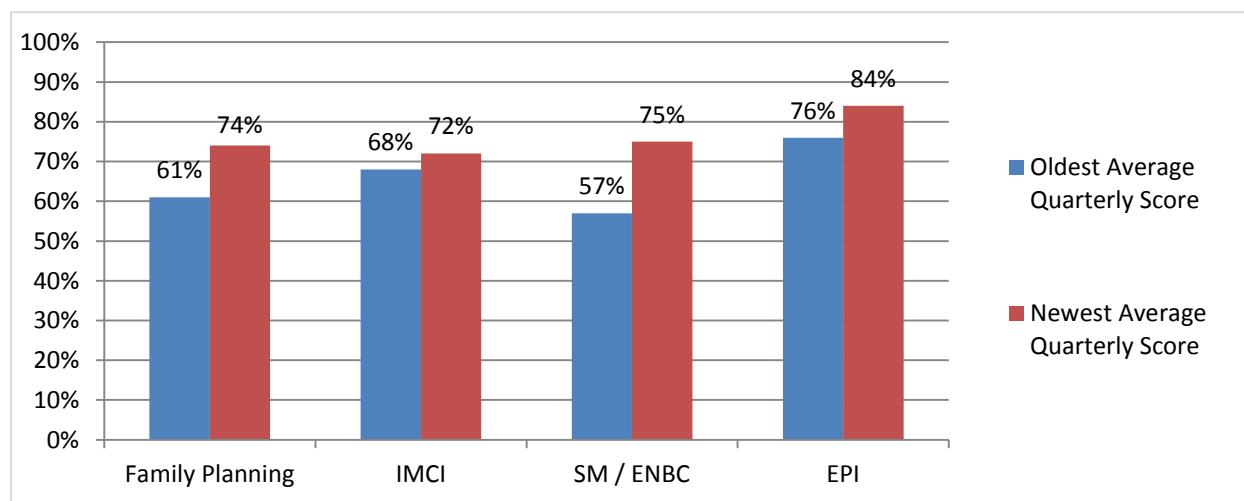


Figure 20 shows an upward trend for all technical areas when we compare the oldest quarterly average scores to the most recent quarterly average scores.

Figure 20: Comparison oldest and most recent average municipality scores (%) - Manatuto



The most salient improvements that were noted in the different technical areas in Manatuto municipality are listed in Table 7.

Table 7: Noted improvements between earliest and most recent supportive supervisions - Manatuto

Technical Area	Improvements
FP	<ul style="list-style-type: none"> • % facilities offering FP counseling • Availability of IEC materials and posters • Availability of all FP essential commodities • Quality of records • % facilities with quality Logistic Management Information System (LMIS)
SM/ENBC	<ul style="list-style-type: none"> • % of newborns properly handled and correctly classified • Correct use of partograph • % of women receiving PNC • Staff skills for labor and delivery improved • Essential medicines for newborn care available
EPI	<ul style="list-style-type: none"> • Refrigerator functioning 24/7 • Defaulter tracing activities • Availability of sufficient stocks of consumables
IMCI	<ul style="list-style-type: none"> • Established IMCI corner and functional ORT corner • % children needing Vitamin A that receive it • % children not needing an antibiotic that leave without one • Correct classification of sick children

In Oecusse region, HIP supported a total of 117 supportive supervision sessions for FP (44), IMCI (22), SM/ENBC (35), and EPI (16).

Figure 21 shows generally lower initial scores compared to Ermera and Manatuto districts but good gains were made in all technical areas. Most recent scores indicate that Oecusse has reached similar levels for FP and SM/ENBC as Ermera and Manatuto municipalities. For IMCI, Oecusse still scores lower while the region scores are higher for EPI.

Figure 21: Number of supervisions done per quarter; average score across Oecusse region by quarter and by technical area

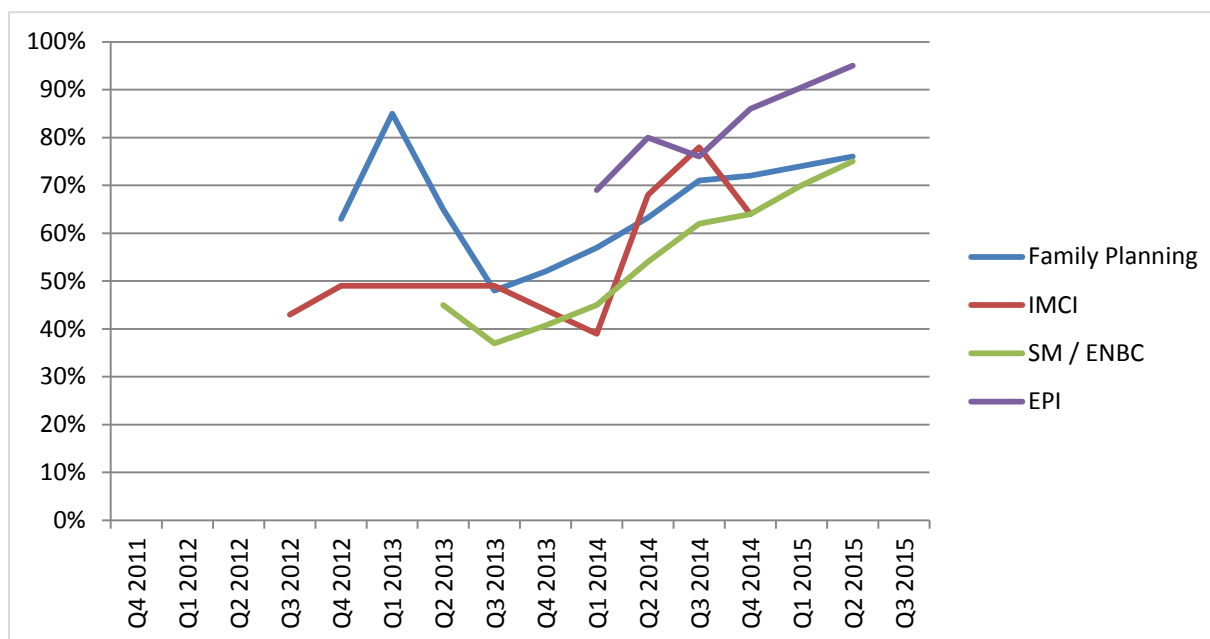
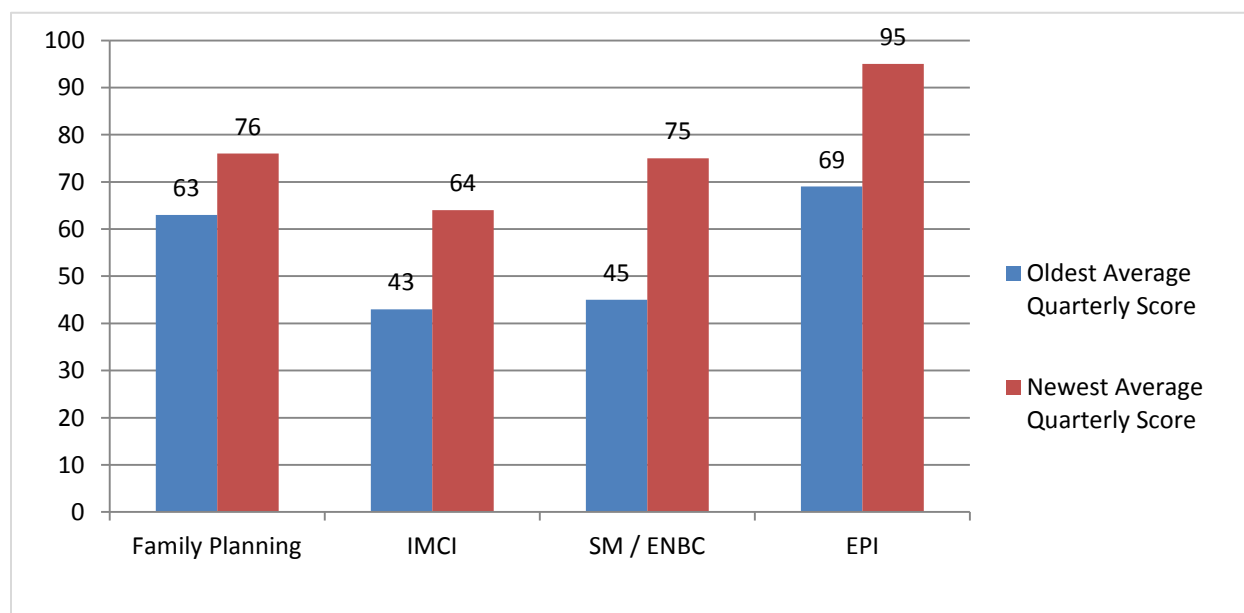


Figure 22 shows an upward trend for all technical areas when we compare the oldest average scores to the most recent ones.

Figure 22: Comparison oldest and most recent average regional scores - Oecusse



The most common improvements that were noted over time during follow-up supervisions in Oecusse district are listed in Table 8.

Table 8: Noted improvements between earliest and most recent supportive supervisions - Oecusse

Technical Area	Improvements
FP	<ul style="list-style-type: none"> • Availability of IEC materials and posters • Clients told recommended birth interval • Follow infection prevention requirements • Quality of records • % facilities with quality LMIS
SM/ENBC	<ul style="list-style-type: none"> • Essential equipment for labor and delivery • Essential medicines for newborn care available • % of newborns properly handled and correctly classified • Correct use of partograph
EPI	<ul style="list-style-type: none"> • Proper waste disposal • Properly maintained EPI register • Refrigerator temperature recording and control • Sufficient stocks of consumables
IMCI	<ul style="list-style-type: none"> • Established IMCI corner and functional ORT corner • Number of staff skilled in IMCI • % children not needing an antibiotic that leave without one • Correct classification of sick children

Table 9 lists the most common items for which improvements could be made. Since opportunities for further improvement are similar, the items listed cut across all three municipalities/region.

Table 9: Most common opportunities for improvement by technical area

Family Planning	SM / ENBC
Follow infection prevention requirements	Training (SM, ENBC)
Availability of all FP commodities	Correct and complete use of partograph
Availability of hand washing facilities	Essential drugs for labor and delivery
Availability of IEC materials for clients	antenatal care (ANC), PNC, ENBC skills
Refresher training	Quality of ANC and PNC
Vital aspects of FP consultation missing, e.g. recommended birth interval, demo on use	Essential equipment and medicines for newborn care available
Clients knowledge on recommended birth interval	Proper handling of newborns
Client's understanding of how to use method	Labor and delivery skills
IMCI	EPI
Availability of all essential IMCI drugs	Adequate stock of all supplies
Availability of all essential IMCI logistics and job aids	Refrigerator temperature 2-8 °C
Children with diarrhea treated with zinc	Defaulter tracing activities
Feeding assessment if < 2 yrs, anemia, or low weight	Refrigerator functioning 24/7
Children needing Vitamin A receiving it	Vaccines properly loaded

c) Improving availability of contraceptives

When HIP started, health facilities were experiencing stock out of contraceptives which limited their ability to provide FP services. During the first two years of the project, and as clearly outlined in annual plans between MOH (FP Unit) and HIP, the project provided intensive TA to the FP Unit to strengthen its LMIS, in order to improve available data for contraceptive supply chain management to reduce stock-outs.

First, HIP supported the MOH in the facilitation of the national LMIS training funded by the United Nations Population Fund (UNFPA). The training focused on recording FP commodities requested; making average monthly consumption and other quantification; LMIS and FP reports; and LMIS software. All relevant HIP staff participated in order to be able to provide TA at the municipality/region level. TA was required at each level of the system to provide follow up after training as a part of the competency based training approach to ensure that the skills learned during the training could be correctly applied.

Second, HIP supported four refresher training for a total of 70 FP providers (average knowledge increase: from 32% to 79%). Trainings were conducted in Oecusse and Manatuto (as well as in two of the previously supported municipalities). During training, participants were requested to bring their facility's FP registers and stock books so that they learn directly with their own data. The MPHOMCH ensured enough stock was at the DHS store room and the participants returned with the quantities needed for the next three months. In Ermera and Manatuto, HIP supported LMIS through a Quality Improvement Collaborative (QIC) workshop and its follow up sessions (see Box 2).

Box 2: From QIC focusing on improving LMIS to prevent stock-outs of FP commodities to regular supportive supervision

A QIC was initiated in Ermera with the technical topic: “improving the availability of FP commodities at facility level”. This topic was chosen because of the municipality's observation of regular stock-outs of FP commodities at facilities. During the analysis of the problem it became clear that most of the issues were located at the municipality and facility level and could be solved locally. Evidence showed that the MHS rarely suffers stock-outs of FP commodities while facilities commonly make emergency orders or are out of stock.

HIP supported the Quality Control (QC) Cabinet and FP Unit in the organization of a two-day QIC workshop in Ermera, which included participants from all health facilities. The workshop was dedicated to using LMIS data to identify the causes of problems and develop a simple facility work plan that identified activities to improve the situation. The last day of the workshop was dedicated to working with the MHS on how their involvement was required in the follow up and their coaching tasks. The follow up visits showed that in general, the stock cards were regularly updated and that the use of requisition forms for FP commodities (instead of only using a simple sheet of paper) increased. Nevertheless, some areas required more support, such as conducting regular inventories, more attention to monitoring the stock levels, better coordination between HPs and CHCs, and sharing of knowledge between staff at the same facility.

During the following months, the MPHO-MCH continued using their coaching skills during supportive supervision. For the remainder of the project, Ermera municipality managed to keep stock out levels to a minimum for most commodities.

1.2.2. Training and FUAT

a) Support to the INS

HIP's Year 1 work plan intended to strengthen pre-service trainings for nurses, midwives and doctors through the sub-contractor, Burnet Institute (Burnet). However, further enquiry found that curricula for nurses and midwives had been recently revised and the *Universidade Nacional de Timor-Leste* (National University of Timor-Leste – UNTL) did not want any revision at this stage. For doctors, although there may have been flaws in the curriculum, the original agreement between the Timor-Leste and Cuban governments precluded changes to the standing arrangements. For this reason any previously planned activities to be undertaken by HIP related to pre-service trainings were transferred to the in-service trainings, managed by the INS.

From the beginning of the project, it was clear that the needs for in-service training were great and were going to increase with the placement of hundreds of newly graduated doctors. Meetings with the MOH and INS highlighted the fact that INS did not have the capacity to meet the number of trainings required by MOH. For this reason, Burnet started its TA with an organizational review and capacity assessment of the INS.



INS and HIP during one of the working sessions for the Institute's organizational capacity assessment exercise, led by Burnet.

Organizational capacity assessment

The HIP team and six INS staff worked together to develop an Operational Plan (2012-2015) based on the INS Strategic Plan (2011-2015). A 2012 Annual Plan was also drafted. In developing the Operational and Annual Plans, the INS staff provided information about the organization's structure and function, as well as the processes they used to achieve their role of in-service training. Based on the drafted Operational Plan and 2012 Annual Plan, HIP supported the INS team to draft an M&E Framework. In addition, through Burnet TA a 'training and organizational capacity development needs' matrix was developed. The matrix listed all trainings (existing and future), number currently trained, number needing training, INS available trainers/supervisors, INS Human Resources (HR) development plan, other trainers/supervisors available in Timor-Leste, and donors support needed. With HIP technical assistance this template was filled by INS Director of Training Department and her staff, which provided a clear understanding of their needs and support they may request from donors. The matrix was presented to donors in the form of a national workshop seeking donors' commitment.

Aware of its needs for curricula development, continuous TOT, and maintenance of standards, the INS requested HIP to support a study tour to Kupang, Nusa Tenggara Timur (NTT) Province of Indonesia for assessing the potential for such collaboration. The choice of Kupang was based on a Memorandum of Understanding (MOU) signed in May 2012 between the Timor-Leste MOH and the Governor of NTT Province. A delegation from Timor-Leste composed of 14 individuals representing the INS, MOH, HNGV, and HIP staff visited Kupang to learn about the set-up of their health training system. Through information and experience sharing, site visits and work planning, the Timor-Leste team learned how a similar training system approach could be adapted. While the INS was to finalize an action plan and a training and capacity development needs matrix based on the visit, the change of Government and Minister changed priorities to different matters with a preference for collaboration with Jakarta.

Training needs assessment (TNA) for midwives and nurses

Burnet later facilitated an INS assessment to identify training needs for the INS trainers and for health professionals. An inventory was completed to identify training needs for the midwives and nurses for basic and refresher trainings in the area of MNCH and FP in the project's focus locations. This allowed HIP to know the number of health personnel needing training or refresher, as well as those who were trained but who had not yet acquired competency. For example, it was found that among the midwives trained in FP in 2008 in the three municipalities/region, only six were competent in implant and IUD insertions, and that among them, three were the MPHOs-MCH. For the rest, FUAT would be required. Once the newly graduated doctors started in the PHC facilities, they were added to the list (which doubled the number of training needs). This list was used during the project's life as a guide for training.

Continued support to INS and coordination with stakeholders

1. Newly graduated doctors' induction/orientation

By the end of November 2012, 406 Timorese doctors graduated from UNTL. Because of their lack of knowledge about Timor-Leste clinical standards and protocols, HIP strongly advocated to MOH, INS, the Timor-Leste Doctors Association and donors to retain these doctors additional months before they are deployed to the 211 HPs and 67 CHCs under a civil servant contract in order to teach them life-saving skills using existing protocols. However a two-week orientation, followed with in-service trainings based on needs was the Government's preferred option.

HIP provided support to the MOH and INS for the preparation of the new doctors' orientation. The MOH "Working Commission for the Orientation and Deployment of New Doctors to the *Sucos*" was established following HIP's recommendation to the Human Resources Directorate. HIP was also appointed as the main partner organization to support INS in the management of the "Material and Orientation Section," in charge of developing the orientation package for the new doctors.

The INS, with support from HIP and WHO, coordinated with all relevant MOH directorates, departments, and cabinets for the compilation of 28 materials (Civil Service Commission; Health Policy and Planning; Health System in Timor-Leste; Human Resources; National Directorate of Public Health; National Directorate of Hospital Support and Services; Ethics and Quality

Control) including summaries and PowerPoint presentations. In addition, HIP provided technical assistance to the INS for the development of a successful proposal to the World Bank (WB)'s NHSSP-SP for the funding of two orientation batches. HIP also committed additional funds for the orientation. The orientation assisted the doctors in getting a thorough understanding of the civil service laws and the MOH system, structures, policies, and programs as well as a clear understanding of their role and responsibilities in the health facilities where they were to be deployed. HIP provided all 406 doctors with a USB flash drive containing all technical guidelines, Standard Treatment Guidelines (STGs), policies, and strategies of MOH.

2. TNA for doctors

In order to identify current training needs and properly plan for in-services trainings in the coming years, a TNA was conducted with newly graduated doctors to identify knowledge and skills gaps existing for the recently graduated doctors and inform the content of ongoing professional development and training on MNCH care for newly graduated doctors. In collaboration with INS and MOH (MCH Department) a self-assessment questionnaire to be completed by newly graduated doctors was developed. This questionnaire included questions about current knowledge, clinical skills and confidence to provide quality health care, using the roles and responsibilities of doctors outlined in their Terms of References (TOR) and MOH key reference documents such as the BSP, the National Reproductive Health Strategy, the National FP Policy and results from Emergency Obstetric Care (EmOC) assessment undertaken by the UNFPA. The questionnaire was filled by 334 doctors at the end of the orientation, highlighting the following results:

- Maternal health: over half the respondents classified their skill level as moderate for ANC and for conducting normal vaginal deliveries. For management of obstetric complications, 40% indicated they had low skills levels and 45% moderate. Similar results were observed for the management of prolonged labor (38% low skill levels and 35% moderate skills levels).
- ENBC: only one-fifth of the respondents indicated they had high skill levels, 38% moderate skill levels and 37% low skill levels.
- Child health: a slight majority indicated they had moderate skills in management and counseling for acute malnutrition, immunization, and IMCI.
- Eighty percent or more of respondents identified three topics as being a top priority for in-service training needs: ENBC (90%), safe and clean delivery (85%), and tuberculosis directly observed therapy (DOTS) (84%). The next grouping of topics that received high priority rating by respondents included: IMCI (78%); basic life support (BLS) (78%); malaria treatment (74%); sexually transmitted infections (STI) syndromic management (71%); growth monitoring and nutrition (71%); and preventive medicine/health promotion (70%).



Newly graduated doctors being trained by INS. This photo shows classroom practical sessions supervised by national trainer before clinical practice in the health facility.



Manatuto Vila maternity senior midwife showing newly graduated doctors the different functions of ANC.

b) Support to training, orientations, refresher training, and FUAT

During the project's life, HIP supported more than 60 training sessions for more than 1,700 health personnel. The training's effectiveness was measured with two indicators: knowledge and competency. Knowledge was measured with a pre and post-test questionnaire administered before and after each training. An increase in knowledge was measured through these written tests after every training supported by HIP.

Competency is the foundation for health personnel to be able to provide services. However, several other components are required to ensure the quality of these services within the context of the health system, such as drugs, commodities, equipment, infrastructure (water and electricity), infection prevention, management, health promotion, etc. Due to this, once a health worker is competent, quarterly supportive supervision should be provided so that the program for which s/he is competent is implemented appropriately. This cycle of training-FUAT-supportive supervision has been the core of HIP's technical support to MOH health facilities.

Competency was measured using the MOH competency checklists included in the MOH training modules (competency was not measured for orientations and refresher training). Table 10, Table 11 and Table 12: Refresher training supported by HIP below provides details on the training, refresher and orientations supported by the project.

Table 10: Competency-based training

No.	Training	Place (and date)	Participants	Knowledge ⁽⁹⁾		Competency ⁽⁹⁾
				Pre-test	Post-test	
1	FP	Dili; INS (Nov. 2012) (more details in Box 4)	10 (midwives from Ermera and Manatuto)	51%	91%	<ul style="list-style-type: none"> •100% counseling •100% implant only
2	FP	Manatuto (Dec. 2012) (more details in Box 4)	9 (midwives from Manatuto)	66%	93%	<ul style="list-style-type: none"> •100% counseling •22% implant only

No.	Training	Place (and date)	Participants	Knowledge ⁽⁹⁾		Competency ⁽⁹⁾
				Pre-test	Post-test	
3	FP	Dili; INS (Sep. 2014)	3 (midwives from Ermera, Manatuto and Oecusse)	62%	88%	•100% counseling •100% implant only
4	FP	Oecusse (Feb. 2015)	15 (9 midwives, 6 nurses)	45%	90%	•100% counseling •56% implant only
5	Safe and Clean Delivery	Dili; INS (Jun. 2014) ⁽²⁾	19 (doctors from Ermera and Manatuto)	45%	100%	100% ⁽¹⁾
6	Safe and Clean Delivery	Dili; INS (May 2015)	14 (8 doctors, 6 midwives from Ermera and Manatuto municipalities)	65%	97%	43%
7	ENBC	Dili; HNGV (Oct. 2013)	12 (midwives from Manatuto)	34%	58%	100%
8	ENBC	Baucau (Nov. 2013)	15 (6 doctors, 6 midwives, 3 nurses from Manatuto)	37%	61%	100%
9	ENBC	Dili; INS (Jun. 2014) ⁽²⁾	17 (doctors from Ermera and Manatuto)	29%	96%	100%
10	BLS	Ermera; Gleno CHC (Jun. 2013)	9 (4 midwives, 4 nurses, 1 other) ⁽³⁾	-	-	100%
11	BLS	Dili; HNGV (Aug. 2013) ⁽⁴⁾	112 (doctors from all municipalities)	-	-	98%
12	BLS	Dili; HNGV (Jun. 2014) ⁽²⁾	35 (doctors from Ermera, Manatuto and Oecusse)	-	-	100%
13	BLS	Ermera; Railaco CHC (Jun. 2014) ⁽⁵⁾	17 (5 doctors, 2 midwives, 7 nurses, 3 others)	-	-	100%
14	M&E	Dili (Dec. 2013)	42 (MHS from Manatuto, Ermera and Oecusse)	65%	86%	-
15	Nutrition (see Box 3)	Manatuto (Jul.-Aug. 2013)	40 (midwives, nurses and nutrition assistant)	44%	78%	-
16	NASG TOT	Dili; HNGV (Mar. 2014)	8 (5 HNGV, 1 MOH, 2 MHS)	-	-	100%
17	NASG	Dili; HNGV (Mar. 2014) ⁽⁷⁾	32 (4 doctors, 22 midwives and 6 nurses)	-	-	100%
18	NASG	Manatuto (Apr. 2014) ⁽⁷⁾	32 (14 doctors, 14 midwives, 4 others)	-	-	100%
19	NASG	Dili; HNGV (Apr. 2014) ⁽⁷⁾	8 (laundry staff)	-	-	100%
20	NASG	Ermera; Gleno CHC (May 2014) ⁽⁷⁾	33 (9 doctors, 9 midwives, 8 nurses and 7 others)	-	-	100%
21	NASG	HNGV (Oct. 2014)	17 (13 midwives, 4 nurses)	57%	93%	100%
22	NASG	Ermera; Ermera Vila CHC (Oct. 2014) ⁽⁷⁾	14 (6 doctors, 1 midwife, 5 nurses, 2 others)	70%	91%	100%
23	NASG	Dili; Atauro (Nov. 2014) ⁽⁶⁾	16 (6 doctors, 5 midwives, 5 nurses)	55%	95%	100%
24	NASG	Dili; Metinaro CHC (Nov. 2014)	14 (1 doctor, 3 midwives, 6 nurses, 4 others)	52%	77%	100%

No.	Training	Place (and date)	Participants	Knowledge ⁽⁹⁾		Competency ⁽⁹⁾
				Pre-test	Post-test	
25	NASG	Dili; Comoro CHC (Nov. 2014)	40 (11 doctors, 22 midwives, 5 nurses, 2 others)	63%	91%	100%
26	NASG	Dili; Ambulance Services (Nov. 2014) ⁽⁸⁾	14 (5 nurses, 5 drivers, 4 others)	69%	79%	100%
27	NASG	Oecusse; Referral Hospital (Dec. 2014)	36 (4 doctors, 11 midwives, 14 nurses, 7 others)	62%	91%	100%
28	NASG	Oecusse; Baqui CHC and Quinat HP (Dec. 2014)	15 (2 doctors, 6 midwives, 7 nurses)	56%	82%	100%
29	NASG	Dili; Ambulance Services (Feb. 2015)	19 (9 nurses, 4 drivers, 6 others)	45%	58%	68% ⁽¹⁰⁾
30	NASG	Dili (Feb. 2015)	6 (doctors from Ermera and Manatuto)	64%	91%	100%
31	NASG	Railaco CHC (Mar. 2015)	17 (7 doctors, 2 midwives, 5 nurses, 3 others)	60%	89%	100%
32	NASG	Hatolia CHC (Mar. 2015)	12 (6 doctors, 1 midwife, 4 nurses, 1 other)	54%	82%	100%
33	NASG	Letefoho CHC (Mar. 2015)	19 (8 doctors, 2 midwives, 4 nurses, 5 others)	52%	86%	100%
34	NASG	Bobonaro; Referral Hospital (Mar. 2015)	41 (5 doctors, 17 midwives, 10 nurses, 9 others)	61%	85%	96%
35	NASG	Atsabe CHC (Mar. 2015)	16 (5 doctors, 2 midwives, 7 nurses, 2 others)	55%	91%	100%
36	NASG	Covalima; Referral Hospital (Apr. 2015)	31 (6 doctors, 7 midwives, 8 nurses, 10 others)	67%	95%	100%
37	NASG	Manatuto; Lacro CHC (Apr. 2015)	14 (4 doctors, 2 midwives, 5 nurses, 3 others)	61%	87%	100%
38	NASG	Manatuto; Soibada CHC (May 2015)	14 (4 doctors, 1 midwife, 1 nurse, 8 others)	51%	77%	100%
39	NASG	Manatuto; Barique HP (May 2015)	5 (2 doctors, 1 midwife, 1 nurse, 1 other)	61%	100%	100%
40	NASG	Oecusse; Boacnana CHC (May 2015)	17 (8 doctors, 3 midwives, 3 nurses, 3 others)	53%	81%	100%
41	NASG	Oecusse; Oesilo CHC (May 2015)	12 (5 doctors, 2 midwives, 2 nurses, 3 others)	60%	93%	100%
42	NASG	Oecusse; Passabe	9 (2 doctors, 1 midwife, 2 nurses, 4 others)	52%	84%	100%

No.	Training	Place (and date)	Participants	Knowledge ⁽⁹⁾		Competency ⁽⁹⁾
				Pre-test	Post-test	
		CHC (May 2015)				
43	NASG	Oecusse; Sao Damiao Clinic (May 2015)	17 (10 doctors, 3 midwives, 2 nurses, 2 others)	52%	90%	100%
44	NASG	Baucau; Referral Hospital (Jun. 2015)	69 (17 doctors, 19 midwives, 16 nurses, 17 others)	62%	93%	94%
45	NASG	Ainaro; Referral Hospital (Jun. 2015)	46 (7 doctors, 7 midwives, 18 nurses, 14 others)	61%	82%	100%
46	NASG	Ermera; CCT Clinic (Jul. 2015)	47 (4 doctors, 11 midwives, 14 nurses, 18 others)	67%	93%	100%
47	NASG	Bobonaro; all CHCs (Aug. 2015)	55 (24 doctors, 16 midwives, 13 nurses, 2 others)	54%	93%	100%
48	NASG	Manatuto; Laleia CHC and Cairui HP (Aug. 2015)	19 (9 doctors, 3 midwives, 3 nurses, 4 others)	59%	91%	100%
49	NASG	Baucau CHCs	203 (69 doctors, 38 midwives, 64 nurses, 32 others)	51%	88%	97%
50	NASG	Covalima CHCs	68 (18 doctors, 17 midwives, 26 nurses, 7 others)	56%	92%	100%
51	NASG	Manatuto (2 health facilities)	19 (8 doctors, 2 midwives, 8 nurses, 1 other)	60%	87%	100%
Total participants			1,423			

- (1) Two doctors acquired competency during the training and the seventeen others during FUAT activities. See point c) below for details.
- (2) Training conducted as part of the Pacific Partnership 2014 (PP14) activities.
- (3) Training supported by St. John of God Health Care as part of the renovation and quality improvements activities (and FRF pilot) in Gleno CHC.
- (4) Training conducted as part of the visiting USS Denver Medical Team, in collaboration with the MOH, the U.S. Embassy, USAID, the visiting USS Denver Medical Team, SJOG Health Care, and the National Critical Care and Trauma Response Centre (NCCTRC) from the Northern Territory, Australia.
- (5) Training supported by SJOG Health Care as part of the renovation and quality improvements activities in Railaco Leten HP.
- (6) Dili municipality was selected by MOH as a priority site for NASG because its population accounts for 24% of the country's population. Following discussions with Dili MHS Director, Atauro administrative post was selected because of its isolation.
- (7) Phase 1 facilities: HNGV, Gleno, Ermera Vila, Manatuto Vila, Laclubar and Natarbora CHCs, and Lodudu, Fatubolu, Fatubesi, Iliheu, Aimetalaran, Rembor, Manelima and Sananain HPs.
- (8) The majority of Dili Ambulance Services cases are obstetric. Anticipating a significant number of PPH around Dili, the MOH National Directorate for Hospital Support and Services requested that its ambulance nurses and drivers be trained on NASG.
- (9) Some knowledge measurement or competency measurement data are missing for various reasons independent from HIP.
- (10) Several participants had to leave the training before being able to take the competency test; however they all got the opportunity to practice during simulations.

As can be seen from Table 10, knowledge levels as measured through the pre-test were generally in the 50-70% range increasing to close to 100% for most subjects. However, it's noteworthy that ENBC knowledge scores were very low, and while improvements were

impressive, knowledge scores did not achieve the same levels as other knowledge levels. This could indicate significant weaknesses with pre-service training or no update training for concerned staff. This particular weakness also certainly had an impact on scores from the FRF supportive supervision, and points to future needs in this arena.

Box 3: Development and pilot of a nutrition short course by Menzies

During the first two years of the project, HIP co-supported (with DFAT) Menzies School of Health Research for the adaptation of their 20-day Nutrition and Food Security Short Course (four modules) to Timor-Leste context. The adapted course was piloted in Manatuto municipality with HIP financial and technical support. Participants included midwives, nurses, and nutrition assistants from each of the six administrative posts in Manatuto. Sessions were led by staff members from the MOH, INS, and HIP, and included:

1. Global and national frameworks for nutrition.
2. The importance of good nutrition throughout the first 1,000 days.
3. Definitions and concepts of malnutrition.
4. Good nutrition for infants and young children.
5. Good nutrition for adolescent girls.
6. Good nutrition for pregnant women.
7. Good nutrition for breastfeeding women.
8. Vitamin A throughout the lifecycle.
9. Iodine throughout the lifecycle.
10. Iron throughout the lifecycle.
11. Under nutrition.
12. Over nutrition.
13. Food security.

Field visits to SISCas and to Manatuto CHC allowed participants to consider the course curriculum in the context of the health services available in Manatuto. After the sessions on common micronutrient deficiencies, participants used their knowledge on Vitamin A deficiency and anemia to identify and photograph locally available foods that are high in Vitamin A and iron at the market during an additional field visit. Using the photos taken at the market, participants developed their own teaching resource to use in their workplace.



In administrative post groups, participants developed action plans to apply the knowledge they had gained during the course. These plans were later used for FUAT by INS and for post-training support purposes. The results of a 29-question baseline and end-line quiz demonstrated improvement as displayed in Table 10.

Practice sessions on measuring newborn and infants.

Table 11: Orientation supported by HIP

No.	Orientation	Place (and date)	Participants	Knowledge ⁽¹⁾	
				Pre-test	Post-test
1	Safe and Clean Delivery	Ermera (Mar. 2014)	22 (15 doctors, 7 midwives)	59%	73%
2	Safe and Clean Delivery	Ermera (Mar. 2014)	21 (11 doctors, 10 midwives)	55%	79%
3	Safe and Clean Delivery	Oecusse (Apr. 2014)	25 (doctors)	56%	64%
4	Safe and Clean Delivery	Manatuto (May 2014)	21 (doctors)	-	-
5	ENBC	Manatuto (May 2014)	21 (doctors)	-	-
6	SMH	Dili Ambulance Services (May 2015)	19 (9 nurses, 4 drivers, 6 others)	45%	58%
7	ANC	Manatuto; Manatuto Vila CHC and MHS (May 2015)	29 (doctors)	76%	93%
Total participants			158		

(1) Some knowledge measurement or competency measurement data are missing for various reasons independent from HIP.



Table 12: Refresher training supported by HIP

No.	Refresher training	Place (and date)	Participants	Knowledge ⁽⁵⁾	
				Pre-test	Post-test
1	IMCI	Oecusse (Sep. 2012)	9 (nurses)	-	-
2	IMCI	Ermera (Sep. 2012)	16 (nurses)	-	-
3	Safe and Clean Delivery	Oecusse (Jan. 2014)	16 (midwives) ⁽³⁾	55%	85%
4	ENBC	Oecusse (Jan. 2014)	16 (midwives) ⁽³⁾	55%	85%
5	FP	Ermera (Jun. 2014) ⁽¹⁾	19 (midwives)	21%	67%
6	FP	Manatuto (Aug. 2014) ⁽¹⁾	3 (midwives from Ermera, Manatuto and Oecusse)	56%	64%
7	FP	Dili; INS (Sep. 2014) ⁽²⁾	19 (from 13 municipalities/region)	-	-
8	Logistic Management Information System (LMIS)	Oecusse (Sep. 2012) ⁽⁴⁾	17 (mainly midwives from CHCs)	31.4%	77.7%
9	LMIS	Manatuto (Apr. 2014)	17 (mainly midwives from CHCs)	-	-
Total participants			132		

- (1) Necessary because most midwives had not been trained since 2008 or 2009. In addition, most participants were not yet competent in inserting long-term methods, so this initiative was directly followed by FUAT visits.
- (2) INS recommended that the future FP national facilitators receive refresher training before attending the TOT, with the objective of ensuring they are competent in counseling and implant and intrauterine device (IUD) insertion.
- (3) Midwives trained in 2005 and 2010.
- (4) LMIS training were also conducted in Baucau and Viqueque, see Annex 1 for details.
- (5) Some knowledge measurement data are missing for various reasons independent from HIP.

c) Follow Up After Training (FUAT)

Background

As shown in Table 10 above, some in-service training does not result in 100% of clinically competent participants. While most participants reach the competency on mannequins during class exercises, once they are allocated to the practice sites (INS-approved health facilities such as HNGV or Comoro CHC), the patient load is often insufficient to allow each participant to practice the skills they have mastered on mannequins. Another issue is the lack of accredited national facilitators at INS for assessing competencies across all the technical areas of MNCH and FP.

To correct this, the MOH developed FUAT checklists which function as competency log books, where every key function of a given procedure is included and assessed by INS national facilitators. HIP supported the use of the FP FUAT checklist (which focuses on implant and IUD insertions counseling and techniques) and safe and clean delivery checklist (which focuses on the 55 steps of labor and delivery).

Results

During PY2, in order to consolidate efforts and avoid any duplication of activities, HIP joined with Marie Stopes International (MSI) to support the INS in the organization and facilitation of a 2-day workshop to orient national facilitators from 13 municipalities/region on the FUAT tool for FP. Table 13 below shows that HIP supported a total of 102 FUATs in the three municipalities/region, which resulted in 50 midwives competent in implant insertion only (which allows them to insert implant without INS supervision). Seventeen of the midwives assessed were certified by the INS as fully competent (almost six times more than in the beginning of the project).

Table 13: Number and results of FUATs supported by HIP

Municipality / region	No. of midwives who received FUAT	No. of competent midwives		
		Implant only	IUD only	Implant / IUD
Ermera	23	9	0	3
Manatuto	35	23	3	8
Oecusse	44	18	1	6
Total	102	50	4	17

After the 10-day safe and clean delivery training, only a few participants managed to gain competency on real clients because of lack of cases at the two health facilities used as clinical training centers (HNGV and Comoro CHC). HIP supported the 10-day training for 33 health personnel and through FUAT assisted MOH and INS to certify 25 of them (76%).

Box 4: Featured training—FP training for Ermera and Manatuto midwives, Nov.-Dec. 2012

In November and December 2012, HIP supported MOH and INS in the training of 20 midwives on FP counseling and clinical skills. By the end of the training, all 20 midwives were assessed competent in counseling skills and on implant/IUD insertions on mannequins. They all practiced implant insertions on real clients in HNGV and Comoro CHC and some practiced IUD insertions. However, none of them reached the competency because of a lack of available clients during practical sessions.



Laclubar CHC midwife testing for implant insertion competency under INS FP trainer's supervision.

During the months following the training, HIP supported INS in the conduct of several FUAT sessions which resulted in five of these midwives becoming competent on both implant and IUD insertions and eight midwives competent in implant insertions, the preferred long-lasting methods by most women in Timor-Leste (two of these midwives left for further study in Indonesia and one was moved to a management position).

1.2.3. NASG

In response to poorly implemented emergency obstetric and neonatal care procedures that can contribute to poor maternal and neonatal health outcomes, HIP introduced the NASG in selected health facilities and hospitals. While the MOH with support from UNFPA had established facility-level basic obstetric and neonatal care (BEmONC) centers and hospital-level comprehensive emergency obstetric care (CEmOC) centers, results from supportive supervision conducted by the MOH and UNFPA in 2012 showed the centers were not performing as expected. The supportive supervision identified several obstacles inhibiting the effective implementation and performance of key building blocks of the emergency obstetric and newborn care (EmONC) centers.

Key EmONC Building Blocks¹⁰	Obstacles
Renovation and Maintenance	Weak infection prevention practices due to lack of running water in the health facility; unreliable electricity.
Supplies and Equipment	Chronic stockouts of essential drugs and supplies; incomplete distribution of equipment; no inventory list of equipment.
Facility Set-Up	Radios not functioning.
Data Collection	Poor recording of data.
Training	Inadequate skills in completing partograph, diagnosing and managing pre-eclampsia, eclampsia, breech delivery, and newborn resuscitation.
Staffing	Substandard staffing in many facilities.
Team Building	Weak team work among midwives, nurses, and new doctors.
On-going Readiness	Weak referral system; lack of IEC materials.
24/7 EmONC	
On-Site QI Processes	Lack of maternal death records; poor completion of the local area monitoring (LAM) register.
External Supervision	Weak coordination between the MOH Logistics Department, MCH program officers, and MHS team
Utilization	Under utilization.

In order to assist the MOH to address inadequacies and strengthen the provision of EmONC services, HIP contributed to two components of the QI exercise of HNGV's emergency obstetric care (EmOC) services and program. This exercise was led by the HNGV QI team and the Royal Australasian College of Surgeons (RACS) obstetrician at the Maternity Department (obstetrics

¹⁰ Program Implementation Guidance: Essential Obstetric and Newborn Care. USAID and Maternal and Child Health Integrated Program.

and gynecology wards) and aimed at helping to address these identified problems. Box 5 provides a summary of the results.

Box 5: EmOC QI exercise at HNGV

The format used for the exercise was the “Quality Improvement for Emergency Obstetric Care” toolbox”¹¹ that included six components: 1) assessment of the client’s rights to quality EmOC; 2) assessment of staff’s rights; 3) client/family interviews; 4) registers/records review; 5) client flow analysis; and 6) case note review. HIP was requested by the HNGV Executive Director to manage components 3 and 5 of the exercise.

The purpose of the client/family interviews was to capture the perspective of the clients’ experience and/or that of their family on service quality in the facility. Interviews focused on access to care and waiting times; information and communication; treatment experience; dignity, comfort, and general quality; and general perceptions. From the results, HIP drew the following recommendations for providers:

- Improve communications skills so as not to be perceived as rude or angry.
- Clearly communicate with clients when using certain equipment that could be frightening.
- Encourage clients to ask questions.
- Frequently interact with clients in labor so they do not feel ignored.
- Be aware that symptoms that seem normal to staff may be very frightening to clients.
- Improve communication on danger signs for baby and other information upon discharge.
- For management: minor maintenance of toilets, beds, chairs would improve clients’ experience.

The purpose of the client flow analysis was to assess the extent to which obstetric clients arriving at HNGV through the emergency room and clients that are cared for in the labor ward of the hospital are assessed and receive treatment in a timely fashion. Through continuous observation during 72 hours, HIP staff assessed client flow. The recommendations for providers were as follows:

- Verify the identified delays and identify root causes and possible solutions to avoid future delays.
- Consider if the labor ward is the best place for clients with problems during pregnancy (e.g., hyperemesis, pre-eclampsia, reduced fetal movements, trauma, etc.). If they are indeed best cared for in the LW, consider if LW staff need additional training in managing these clients.
- If necessary, review (or develop) policy of prioritization for the use of the operating theatre.
- Enhance attention to clients’ subjective experience of waiting times: acknowledge the arrival of each individual as soon as possible and respond appropriately if any discomfort or anxiety in the client is noticed. Be aware that symptoms and signs that clinical staff see as part of the normal labor process may be perceived by clients as very threatening.

HIP, along with HNGV QI team presented the results to HNGV Executive Director and key staff and partners from the Emergency and Maternity Departments.

¹¹ EngenderHealth and Mailman School of Public Health, Columbia University. 2003 (available on line at <http://www.engenderhealth.org/files/pubs/maternal-health/qi-for-emoc-manual.pdf>).

Following these results, HIP collaborated with UNFPA to support the MOH to improve the BEmOC program with a new strategy. The strategy started with the training of ten personnel from the MOH (representatives from INS, MOH, HNGV, and one CHC in Dili), who followed the standardized BEmOC at a national training center (P2KT Center¹²) in Surabaya, Indonesia to develop their skills as basic trainers for BEmOC. The three-week training given to the team from Timor-Leste represented their first step to becoming basic trainers. The participants were given a certificate of completion recognizing their participation in the BEmOC standardization training. The P2KT trainers shared the BEmOC training guideline with participants for use in future BEmOC training for doctors and midwives. Next steps for follow-up, with potential guidance from P2KT, were outlined in a meeting between representatives from INS, HIP, UNFPA and the P2KT master trainers.

Change in high level MOH personnel (including Minister, Vice-Ministers, HNGV and INS Executive Directors, and several national directors) put this agenda on hold. Inadequacies in the system to manage obstetric complications continued to place pregnant women at higher risk. MOH routine HMIS data report that 40% of maternal deaths are due to PPH, but it could be as high as 50.2%¹³. While active management of the third stage of labor (AMTSL) is the approach for best prevention of PPH (and the approach implemented by MOH), only 30% of deliveries in Timor-Leste are assisted by skilled providers¹⁴, reducing the survival chances of women with PPH who live far away from a health facility able to provide adequate emergency treatment.



In this context, HIP was requested by the MOH to support the design of interventions for the management of PPH by introducing this new technology and reinforcing existing interventions such as the prevention of PPH through AMTSL and its management through BEmOC. The NASG, a low-technology device that can slow excessive bleeding and stabilize a woman suffering from PPH until she reaches a health facility able to treat her or until the necessary supplies (i.e., blood, drugs, etc.) are available.

The interventions were implemented in two phases (see table below for a summary of key activities). During Phase 1, the total number of personnel trained on NASG was 144 (see numbers 16-22 in Table 10) and the PPH kits were distributed following MOH procedures and documentation. Phase 2 expanded NASG geographically, but also programmatically with additional components including: (1) increase institutional delivery through behavior change

¹² The P2KT Center is a national training center for reproductive health in East Indonesia accredited by the MOH of Indonesia. The P2KT Center supports 18 provinces in east Indonesia to produce trainers for reproductive health. The P2KT pathway to becoming a training expert was developed in 2003, following guidelines produced by the Johns Hopkins Program for International Education in Gynecology and Obstetrics.

¹³ The Ministry of Health of the Democratic Republic of Timor-Leste. 2011. National Health Sector Strategic plan 2011-2030.

¹⁴ The Democratic Republic of Timor-Leste. 2010. Timor-Leste Demographic and Health Survey (TL-DHS) 2009-10.

communication (BCC); (2) strengthen the referral system; (3) expand the operations research to monitor and improve interventions; and (4) supportive supervision. In total 910 health personnel were trained during Phase 2 (see numbers 23-51 in Table 10).

Phase	Implementation Location	Activities
Phase I (October 2013 – September 2014)	15 pilot HPs and CHCs in Ermera and Manatuto municipalities ¹⁵ and HNGV	Collaborated with the MCH Department to adapt the University of California, San Francisco (UCSF) training module to the Timorese context.
		Developed facilitator's manual, a participant's guide, and job aids, which were edited to comply with MOH standards and protocols and translated into Tetum.
		Drafted a training package approved by the INS that included Standard Operating Procedures (SOPs), simulation exercises and competency checklists, and a training video in Tetum, showing Timorese actors with familiar MOH personnel in Timor-Leste health facilities.
		Supported the design and production of PPH kits, which include one NASG (procured by HIP) and the materials and medicines required for stabilizing a woman suffering from PPH (see details below). These supplies were provided by the <i>Serviço Autonomo de Medicamentos e Equipamentos de Saúde</i> (SAMES – Medicine and Health Equipment Autonomous Service).
Phase 2 (October 2014 – September 2015) ¹⁶	All facilities in Ermera and Manatuto municipalities and Oecusse region; all regional hospitals; selected facilities in Dili municipality; all facilities in Baucau, Covalima, and Bobonaro municipalities (where the referral hospital was already implementing NASG).	Delivered training to the health personnel from the added facilities accompanied by the delivery of the PPH kits and simulation exercises and competency checks on NASG application, the stabilization of women with PPH, and transfer using the MOH referral protocol.
		Introduced competency checklists, which outlined every step of the application. For

¹⁵ Gleno CHC, Lodudu HP, Ermera Vila CHC, Fatubesi HP, Fatubolu HP, Manatuto Vila CHC, Cribas HP, Iliheu HP, Laclubar CHC, Manelima HP, Sananain HP, Natarbora CHC, Barique HP, and Aimetalaran HP.

¹⁶ As mentioned in the introduction, HIP received an additional \$400,000 from USAID through the DIV funding in order to implement Phase 2 of NASG.

		hospital personnel, an additional competency checklist for removal was developed.
		<p>Completed simulation exercises in all facilities, with a scenario that included:</p> <ul style="list-style-type: none"> • The arrival of a woman with PPH at the health facility (with private transport or ambulance). • Her transfer to the maternity room. • The first response, checking of vital signs. • The application of NASG and treatment (uterine massage, administration of oxytocin and ringers lactate/normal saline). • Preparation for referral (making phone call, preparing ambulance, filling of referral formats, etc.).
		<p>Supported MPHOs-MCH in the conduct of supportive supervision for NASG, which included:</p> <ul style="list-style-type: none"> • A review with health personnel of the latest PPH cases and their management (with or without NASG); • A review of human resources trained and key human resources conducting regular competency checks; • A check of the completeness of the PPH kits in stock and their good maintenance; and • A check on key personnel's competency on NASG application. The project supported a total of 38 NASG supportive supervision visits (two referral hospitals, 13 CHCs and 23 HPs) which resulted in an average score of 84%. No major differences were noticed between CHCs and HPs.

Supplies were provided by the *Serviço Autônomo de Medicamentos e Equipamentos de Saúde* (SAMES – Medicine and Health Equipment Autonomous Service). See Box 6 below.

Box 6: PPH kits content



- 1 NASG
- 1 pair of sterile latex surgical gloves
- 4 liters of normal saline or ringer's lactate
- 2 IV catheter/cannula large (G:18/45mm)
- 2 disposable infusion set (with IV needle 21G x 1 ½'')
- 2 uterotonic (Oxytocin 10 IU)
- 1 Disposable syringe (with IV needle 2.5ml or 5ml)
- 1 Plaster tape (5 meter roll)
- Sterile gauze (square)
- 2 alcohol swabs



USAID Mission Director handing over the PPH kits to the Vice-Minister of Health at the MOH.



Simulation exercises conducted in Dili (left) and Manatuto (right) municipalities emphasizing the role of ambulance personnel in NASG interventions. Ambulance nurses and drivers were trained on NASG in all implementing facilities.

Behavior Change Communication

The 70% of women in Timor-Leste who deliver without the assistance of a trained health worker need to be encouraged to seek help if they encounter a complication during delivery. In order to have access to the NASG, these women need to be able to recognize the danger signs and make the decision to seek care (to overcome the first delay) and reach the closest health facility (to overcome the second delay). In order to achieve this, HIP supported the MOH to develop the Community Monitoring and Tracking Tools for Safe Motherhood (approved in December by the Health Promotion and Education Department), which outlined the interventions needed to promote and implement birth preparedness and complication readiness plans among families.

Following the approval of the guidelines and tools, HIP supported the development of a training package for the use of Community Monitoring and Tracking Tools for Safe Motherhood and Childhood Immunization. The tools were designed to promote the following behaviors as prioritized in the National Strategy on Reproductive, Maternal, Newborn, Child and Adolescent Health (RMNCAH), 2014-2018: (1) pregnant women seek at least four ANC visits, starting in the first trimester; (2) pregnant women, their husbands/partners, and family members are aware of the danger signs during pregnancy, delivery, and after birth, and know how to respond in the case of an emergency; (3) pregnant women, their husbands/partners, and family members make plans for a delivery with a skilled health professional and have a birth plan in place; (4) women who have given birth attend a minimum of two PNC visits; and (5) families vaccinate their children in the first year of life as per the national vaccination schedule. Examples of the community tracking tools can be found in Annex 14.

The training package was tailored for health staff, community leaders and *promotor saúde família* (PSFs – family health promoters) at the *aldeia*, *suco* and administrative post level, who are supporting safe motherhood and child immunization. It aims to orient participants on a series of tools (registers for enumeration of target populations, maps, reports) developed to assist communities to account for all pregnant women, women who have recently delivered and children under one year, checking that they have access to essential services including: education on birth preparedness and complication readiness, ANC, PNC, and immunization.

Effective use of the monitoring and tracking tools will ensure that if any gaps are identified during enumeration (e.g. a child is found un-immunized or a pregnant woman is without a birth plan) households are given advice and counseling, maximizing the interaction of health staff and PSFs in promoting safe motherhood at every opportunity. At the *suco* and administrative post level, data and coverage rates are reviewed and interventions planned to increase the use of maternal and neonatal services. The training package consists of five modules described in Table 14 below.

Table 14: Training package for the use of community monitoring and tracking tools summary

Module	Focus	Participants
1	Orientation of community monitoring and tracking tools for safe motherhood	Midwives, PSFs, CHC manager, doctors and nurses from CHC or HP, MHS officer for MCH
2	Using community monitoring and tracking tools to increase ANC, PNC, skilled birth attendance (SBA)	Midwives, PSF, CHC manager, doctors and nurses from CHC or HP, MHS officer for MCH
3	Using community monitoring and tracking tools to increase childhood immunization	Midwives, PSF, CHC manager, doctors and nurses from CHC or HP, MHS officer for EPI
4	Using community enumeration data for planning interventions at the <i>suco</i> and administrative post level	<i>Suco</i> Council members, PSF, community organizations, CHC managers, midwives, nurses, MHS officer for MCH
5	Developing a community transport plan for MNH	<i>Suco</i> Council members, CHC managers, HP midwife or nurse, PSF, MHS officer for health promotion, community leaders, community organizations

device in the management of an obstetric hemorrhage case. Semi-structured qualitative interviews were conducted to learn of pre-intervention management practices, experiences with obstetric hemorrhage, device acceptability among providers, perceptions of the usefulness of the NASG given their context and constraints, and anticipated challenges to use. Results from the formative research were used to inform and finalize the design of the monitoring tools and processes.

The NASG monitoring system was designed around a regular, on-going process of data collection and data use. Data were regularly collected, discussed, and used to guide decision making, refine intervention activities, and strengthen the support provided during the implementation of the intervention.

The system included two components in order to capture robust information about PPH cases and NASG use in the catchment area as well as provider acceptance of NASG as a new technology for managing obstetric hemorrhage.

The first component of the monitoring system was **case documentation** to collect case management and outcome information on cases of PPH presenting at targeted and non-targeted facilities in the catchment area, including the circumstances and information related to NASG use. Two types of case documentation forms were used: : the **Sending Facility Form** which was completed at the facility where the PPH case first presented that captured patient information and history, delivery information, examination findings, tests administered and results, treatment administered, NASG use information, transfer information, and outcome (if known); and the **Receiving Facility Form** which was completed at the facility where the woman received definitive treatment and included additional test results and examination findings as well as NASG removal and outcome information.



HIP technical officer interviewing newly trained doctor in Railaco CHC, using her tablet for data collection.

Data collection for case documentation was completed at the end of September 2015. There were a total of 86 PPH cases presenting at eligible sending or receiving facilities, of which the NASG was applied in 40 cases according to specified criteria.

The second component of the monitoring system was **provider interviews** to develop an understanding of the acceptance and adoption of NASG as a new technology for managing obstetric hemorrhage as part of the standard of care among providers in the Timor-Leste context. The semi-structured qualitative interview guides were designed around the Diffusion of Innovations (DOI) theory as a framework (E.M. Rogers).

The innovation-decision process outlined by the DOI framework includes 5 successive stages: (1) *knowledge* (awareness of an innovation and its functions); (2) *persuasion* (formation of a

favorable or unfavorable attitude towards the innovation); (3) *decision* (adoption or rejection of the innovation); (4) *implementation* (use of the innovation); and (5) *confirmation* (self-evaluation of the results of the innovation decision).

Two types of provider interview forms were used. The first (**First Level Interview Form**) was administered to providers who had received the training but not yet applied the NASG in an actual case of obstetric hemorrhage. The second (**Second Level Interview Form**) was administered to providers who had received the training and had one or more experiences using the NASG in a real-life situation.

At the end of September 2015 when the data collection period ended, there were a total of 780 first level interviews completed (among providers who had been trained but not yet had experience applying NASG) and 63 second level interviews completed (among providers who had been trained and experienced applying the NASG on a PPH patient).

Box 7: NASG cases success stories

In the end of April, a 31 year old woman from Soibada administrative post (Manatuto) arrived at the CHC after having delivered her sixth child at the HP. She was bleeding heavily (estimated 700 ml) due to retained placenta and her blood pressure was very low. The doctor, who had been trained a month earlier while participating in a Safe and Clean Delivery refresher training, applied the NASG immediately, stabilizing her with IV fluids. She was referred to Dili National Hospital, where she was appropriately treated. Upon her arrival, her blood pressure had returned to normal ranges due to application of the NASG. She was discharged with no further complication.



Soibada CHC doctor and ambulance staff preparing the women for referral to Dili.

For further information on the results, please refer to 3. important research findings; the Technical Brief: *Introducing and Scaling up Use of the Non-pneumatic Anti-Shock Garment (NASG) to Reduce Maternal Death from Postpartum Hemorrhage* (Annex 4); and/or the summary report: *The Non-Pneumatic Anti-Shock Garment (NASG): Saving Mothers' Lives through Innovation in Timor-Leste* (Annex 5).

1.3. Planning and Monitoring and Evaluation (M&E)

Another approach employed by HIP to strengthen health systems capacity is planning and M&E. This approach focuses on ensuring that evidence-based practices are planned for, implemented, and monitored at every level of the system.

1.3.1. Evidence-based planning

From the start of the project, HIP worked closely with the Planning and M&E Department to promote and support evidence-based planning at every level of its TA. HIP's strategy was to support MOH in planning and setting up working groups and regular meetings to monitor the

implementation of the plans at the national, municipality, administrative post, and *suco* levels. At the national level, HIP supported guidelines development, and at the levels below, their implementation and monitoring through various existing Government entities (see Annex 6: *Diagram for Technical groups supporting bottom-up planning and implementation of activities at the community level*, also included in the MOH Planning and Budgeting Guidelines).

a) Project start up planning workshops

The first workshop supported by HIP emphasized planning (November 30, 2011) and was facilitated by the Planning and M&E Department Head. It gathered all of HIP's counterparts and health stakeholders to identify the support expected from HIP, using the MOH annual plans for 2012. The participants divided into eight groups (three from the national level and one per focus municipality/region) and prioritized areas where HIP would focus in 2012. During the weeks following the national workshop, HIP worked at both the national and municipality/region levels to support MOH in (1) the set-up of technical working groups to monitor implementation of MOH plans, and (2) the harmonization of HIP's and MOH plans. Working closely with WHO, USAID and MOH, three levels of technical working groups were established: the National Health Sector Coordination Committee (NHSCC) at national level; the MTWG at municipality/region level; and the Administrative Post Technical Working Group (APTWG) at administrative post level. Their terms of reference (TORs) were signed by the Director General of MOH and included as key planning and monitoring forums in the MOH Planning and Budgeting Guidelines.¹⁷ During harmonization, all focus MHS requested HIP to focus on two administrative posts only (see Box 9 for details on HIP's expansion strategy to all administrative posts).

While harmonization was being carried out in the weeks following the launch, the MOH 2012 annual plans had already been developed. Therefore the timing did not allow HIP to initiate the annual planning process at the same time as the MOH, and it was anticipated that the problem would be similar for the following year given the United States and Timor-Leste fiscal years were different. For this reason, USAID responded positively to HIP's request of changing the project's planning cycle from October-September to January-December in order to align with the Government of Timor-Leste's planning cycle. This change allowed HIP to be more responsive to MOH requests and better provide the TA needed for MOH programs.

b) Annual planning

By being based at the municipality/region level, HIP had the opportunity to work with all MHS in the development of their annual plans (the process usually started around June). Starting in early 2013, HIP became more involved at the national level working closely with the NHSSP-SP and supporting MOH in the design of new planning templates. These templates were used for 2014 annual planning and later re-adjusted for the 2015 and 2016 planning exercises. These were the foundations for the drafting of the MOH Health Planning and Budgeting Guidelines¹⁸

¹⁷ Ministry of Health. June 2014. Health Planning and Budgeting Guidelines.

¹⁸ The MOH Health Planning and Budgeting Guidelines include National Health Sector Planning, Municipality Health Planning, Hospital Health Planning and National Institutes Planning, and Community Health Planning.

(supported by NHSSP-SP), approved by the Minister in 2014, and to which HIP provided regular technical inputs and trials in the focus municipalities/region.



The Minister of Health and MOH Director General observing municipality directors developing their 2015 plan (left) and Ermera MHS Director, MPHIO for Health Statistics and Information and DPHO-Planning working on their annual plan, assisted by MOH M&E Officer.

Whether at national or municipality/region level, HIP ensured that MOH and MHS were in full agreement with the TA to be provided during the year, and obtained formal approval from the Departments' Heads and MHS Directors on an annual basis.

Box 8: Example of using evidence-base for planning

The FRF pilot in five health facilities in 2013 and the three municipality/region level workshops organized in 2014 showed to the MOH that detailed planning, using existing data, was having an effect in the improvement of the facilities' readiness because health personnel knew the problems to improve in their facility, planned to improve them with responsible persons (health and non-health sectors) and a timeline, and implemented these actions, which were going to be supervised in the following months. Following this success—which was replicated to the ten remaining municipalities—HIP suggested to include all available data on the planning templates, so that not only the facilities' readiness improves, but also the quality of MNCH services and the utilization of services by the community. Data were therefore collected and compiled from MNCH supportive supervision, HMIS/coverage and surveys (in this case, the Maternal Health Study).



The workshops were organized a year after the first ones and resulted in the development of 74 action plans (one per health facility), which fed directly into the MHS' annual plans for 2016.

Group work in Manatuto municipality to develop the improvement plans which will feed into 2016 annual plans.

At national and municipality/region level, HIP supported the MOH 2015 annual planning meetings in a series of steps, strongly encouraging MOH to use available data for evidence-based planning (see Box 8 for a concrete example): (1) departmental planning and budgeting exercise (one-day training on the new planning and budgeting database); (2) focus municipalities/region planning and budgeting exercises (including in-depth collection of coverage data from 2013-2014 and planning and costing of activities for 2015)¹⁹; (3) other municipalities and partner agencies' planning exercises (the workshop, attended by 119 participants from non-focus municipalities, was supported by HIP after having received formal approval from USAID; this activity was a part of the expansion of HIP's TA to other municipalities); and (4) TA to the MOH for the finalization of the plans.

c) Monitoring of annual plans

MTWGs

To advocate for the regular implementation of municipality/region review meetings, HIP facilitated the implementation of MOH tools and official documents: (1) the TOR for the MTWG (see above) and (2) the Monitoring and Evaluation Guidelines. The 'municipality progress card', one of the components of the Guidelines, includes a set of 24 key performance indicators (KPIs) that need to be reported on every month to the national level (see below 1.3.2.).

HIP supported regular MTWG meetings and following the TOR approved by the MOH, they aimed at strengthening overall coordination, monitoring annual plans, and reviewing HMIS and supervision data, as well as, included MHS Director and all officers, CHC managers, and partners. Whenever feasible the Municipality Administrator or someone representing him attended.

¹⁹ In Ermera, in collaboration with UNICEF, HIP assisted the MOH, MHS and CHCs in using the bottleneck methodology (emphasizing on MCH interventions) in which they had been trained in October 2013 by the University of Gadjah Mada. In Oecusse, HIP not only supported MOH and MHS in the regional level workshop, but also in the planning and budgeting exercise at the Referral Hospital.

Box 9: HIP's expansion strategy

During PY1, HIP provided its TA package to two administrative posts per municipality/region. During the first quarter of PY2, the project worked closely with the focus municipalities/region to expand its TA to all administrative posts. The objective of the expansion was to ensure that HIP support was covering the whole municipality/region and therefore contributing to improving MNCH and FP outcomes and quality of services municipality/region-wide.

After getting the approval of MHS Directors on the expansion strategy, HIP and MHS Directors met with the Municipality Administrators to introduce the project and set the basis for better inter-sectoral linkages between health and state administration. Later on, expansion workshops were organized in all municipalities/region. These workshops—organized one year before the FRF workshops—assisted MHS and health personnel to select priority *sucos* for HIP's TA, using coverage data broken down per *suco* (from LAM and HMIS) and population sizes (Census 2010 projections) and to define a package of activities for each administrative post and each selected *suco*.

These workshops, attended by Municipality Administrators, some Post Administrators, MHS and health facility personnel encouraged inter-sectoral linkages and emphasized using *suco* level data for better targeting of underserved populations. HIP's focus on micro-planning started a few weeks later, using similar tools for the same objective of reaching *sucos* with lowest coverage.

Micro-plans

The planning tool used by MOH at administrative level is the micro-planning tool. This tool, initially developed by WHO for immunization, was successfully operationalized with IPL support from 2011 to 2013. Before IPL closed out, the project joined efforts with HIP to support the MOH in its adaptation to more MCH programs. Through a series of meetings led by the Planning and M&E Department with the MCH Department, WHO, and NHSSP-SP, HIP provided TA for expanding the micro-planning template from immunization only (including Pentavalent, Polio and Measles) to ANC, SBA, PNC, and FP. IPL and HIP jointly supported the pre-test of this integrated tool in Gleno CHC and their pilot in Manatuto municipality and Oecusse region. After the successful pilot, HIP supported its implementation until the end of the project.



Group discussions between health workers and community leaders during micro-planning meeting in Oecusse (left) and presentation of quarterly coverage results by MPHOC-MCH in Manatuto (right).

The CHC micro-planning is a targeted, bottom up, participatory, action oriented process:

- ‘Targeted’ because the issues identified and interventions planned are unique to the administrative post in which the micro-planning takes place and respond to the problems reflected in the data.
- ‘Bottom up’ because it analyses data collected by health staff working in HPs to identify gaps in the use of maternal and neonatal health services and seeks to use interventions that address these gaps.
- ‘Participatory’ because health staff, community leaders, PSFs and community organizations working in the planning area are involved in the data analysis, priority setting and action planning process.
- ‘Action-oriented’ because there is a direct link between planning, implementation, monitoring and reporting on outcomes to ensure that they are reaching their target.

Each CHC micro-planning results in the delivery of integrated activities that are designed to reach underserved populations, as defined by the National Primary Health Care Program. This program, or ‘package’, aims to prioritize and “adopt the necessary strategies to meet population needs and expectations”²⁰. The key element of micro-planning is a full day workshop that takes place each quarter and is attended by CHC managers, CHC midwife coordinator, HP doctors and midwives, MPHOs for EPI, MNCH and health promotion, *suco* leaders, and NGO partners. The output of the workshop is a CHC micro-plan which includes a list of prioritized problems, strategies and interventions for increasing coverage of MNCH services, particularly in areas where coverage is low.

The purpose of the CHC micro-plan for MNCH is to increase ANC4, PNC, SBA and immunization of children under 1 to above 80%. The micro-planning is closely aligned with the MOH Community Health Planning and Budgeting process²¹. The outcomes of CHC micro-plan activity are monitored by CHC managers when they meet at quarterly micro-plan meetings. This meeting serves the same function as the APTWG at the administrative post level.

The CHC manager feeds information into existing coordination structures, such as the administrative post council. Its role is to ensure that a common administrative post annual implementation plan (AIP) is developed, to provide overall technical support and to submit a quarterly performance report to the MHS Director and the Post Administrator.²²

Quarterly results of MP activity are aggregated into the Community Health Annual Implementation Plan, which is Level 1 of the Health Planning and Budgeting process (see Health Planning and Budgeting Guidelines). In addition, the results of analysis of community access to health care, health system barriers to service provision (included in the micro-planning template) and health facility readiness assessments all provide background for the development of the

²⁰ Maria do Céu Pina da Costa, Minister of Health speaking at the launch of the National Primary Health Care Program, April 2015.

²¹Ministry of Health (2014: 123) Health Planning and Budgeting Guidelines All Sections, MOH, Timor-Leste.

²²Ministry of Health (2014: 123) Health Planning and Budgeting Guidelines All Sections, MOH, Timor-Leste.

Community Health Annual Implementation Plan²³. For more detail on the objectives and process please refer to Annex 7: Integrated micro-planning for maternal, neonatal and child health.

As displayed in Table 15, during the two years of micro-planning support, HIP assisted 16 CHCs in the conduct of 116 micro-planning meetings.

Table 15: Number of micro-planning meetings supported by HIP since PY2

Municipality/ region	PY2		PY3				PY4			Total
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
Ermera	1(*)	0	4	6	6	6	6	6	6	41
Manatuto	0	6	5	6	6	6	6	6	6	47
Oecusse	0	4	3	4	2	3	4	4	4	28
Total	1	10	12	16	14	15	16	16	16	116

(*) Pre-test of integrated tool in Gleno CHC, in collaboration with IPL.

d) *Suco* level health planning

HIP supported eight selected *Suco* Councils to plan, implement and monitor interventions aiming at increasing community participation in health issues, utilization of health services, and practice of healthy behaviors by the *suco* community. The objective was to empower community leaders to make informed decisions about the health needs of their communities and maximize available resources to increase demand for health services and improve the provision of health services. This process included the following steps:

1. Advocacy at the administrative posts of *sucos* where community engagement in health planning would be introduced (*sucos* selected using a series of criteria such as low coverage and motivation of *Suco* Chief).
2. Assessment of health needs, using HMIS data (broken down by *suco*), community health seeking behavior practices assessment conducted with participatory rural appraisal (PRA) tools, and facility readiness supportive supervision results.
3. Formulation of a *suco* action plan for health, including effective MNCH and FP interventions to increase community participation and improvement of health facilities, based on the result of health needs, using the Ministry of State Administration (MSA) planning template so that the health plan is integrated into the overall *suco* development plan.
4. Implementation of the *suco* action plan for health (see 1.4.1. for details on the implementation).

While the *suco* health plans are integrated into the *suco* development plans, they also feed into the CHC micro-plans. The *suco* chiefs attend the micro-plan meetings. Throughout the project, HIP observed how they provided useful insight about areas needing more attention from CHC and HPs, based on the HMIS data broken down by *suco*, but also to the in-depth analysis conducted for the formulation of the *suco* health plans.

²³Ministry of Health (2014: 112) Health Planning and Budgeting Guidelines All Sections, MOH, Timor-Leste.

This experience piloted by MOH with support from HIP at *suco* and administrative post level was used by the Planning and M&E Department for the development of the MOH Health Planning and Budgeting Guidelines.

Please refer to the Technical Brief: *Engaging Communities to Improve Maternal and Neonatal Health* (Annex 8).

Box 10: applying HIP staff planning efforts to MOH planning system



During the 48 months of the project's life, HIP staff applied exactly the same methodology of evidence-based planning during the HIP's internal monthly review and planning meetings. Using quarterly micro-planning data, supportive supervision results, and project's key indicators, HIP teams worked with municipality/region teams to identify areas of weaknesses and underserved areas, and study the barriers and enablers to improve quality and utilization of health services. They also worked by technical areas (QI and community engagement separately) to identify the most effective interventions to improve quality of health services, micro-plan indicators and HIP's indicators. This methodology

implemented routinely every month assisted HIP staff in better guiding MOH, MHS and health facility personnel in using existing data to plan, implement and monitor programs and to plan interventions that would be having an impact on as many beneficiaries as possible, especially women of reproductive age, babies and children under five years old.

1.3.2. M&E framework

HIP's support to the MOH M&E framework was the result of two years of intensive TA provided to the HMIS, which set up the base for assisting MOH in the development and implementation of the M&E Guideline to better inform decision-makers.

During the first two years of implementation HIP provided TA to MPHOs-HMIS in improving the quality of data and the completeness/timeliness of reporting to the higher level. For the quality of data, the supportive supervision checklist developed with TAIS support was used in several facilities across the focus municipalities/region. Issues identified through the first rounds of HMIS supportive supervision helped HIP HMIS team to include numerous specific data QI activities for the following months, i.e., provision of technical support on how to do data transmission from registers to HMIS reporting forms, data verification, and data analysis; organization of 'HMIS days' to improve data quality and accuracy; orientations of HMIS staff on data quality and indicator calculation; conduct of monthly/quarterly meetings at CHC level where data are discussed; and improvement of the filing system. HIP worked closely with HP and CHC HMIS focal points to improve timeliness and completeness of monthly and quarterly reporting from the HP to CHC (by the 3rd of each month), from CHC to MHS (by the 6th of each month) and from MHS to national level (by the 10th of each month).

In PY3, HIP provided technical inputs on the MOH M&E Guideline development and Tetum translation, and provided TA in the introduction and dissemination of the new MOH M&E framework through co-facilitating training at national level and training for the focus

municipalities/region. The training provided an overview of basic M&E skills and concepts, community-based monitoring, and an introduction to the new M&E framework. HIP's M&E team also participated in MOH strategic discussions to align the HMIS reporting formats with the new M&E framework, and funded one workshop to re-define and select a set of input, output, outcome, and impact indicators to reflect each of the National Directorate of Public Health department programs. The proposed set of indicators for each department was aligned with the NHSSP, the MDGs, and the National MOH M&E framework.

In PY3, MOH developed its M&E Guidelines and established 'progress cards' with KPIs to be reported monthly. Through this activity HIP strengthened HMIS foundations in most facilities and MHS and was well equipped with technical advisors and officers understanding the HMIS and the importance of timely and quality collection, reporting, analysis, and use of data. During PY3 and PY4, HIP continued its support to MPHOs-HMIS for the compilation of the monthly M&E reports.

1.4. Community engagement on health and communication activities

Another approach employed by the project focuses on community engagement. This approach fosters demand creation and community participation to increase the utilization of health services as well as ensure that interventions undertaken are responsive to the community gaps and needs. HIP works directly with beneficiaries via existing community structures and helps to build communication between facilities and communities.

1.4.1. Implementation of micro-plans and *suco* health plans²⁴

As part of the 2012 harmonization process with MOH it was agreed that HIP would support key units of the Health Promotion Department in the areas of systems strengthening and coordination of community policies. This included providing a capacity-building program for *suco* councils to plan and manage health projects and the development of tools and resources to support this process. HIP continued to liaise with officers in the Health Promotion Department about strategies for the strengthening of *suco* health action plans through collaboration with the MSA.

In the final quarter of PY1, a national workshop on *suco* health planning was attended by 123 representatives from MOH, MSA, MHS representatives, municipality and administrative post leaders, *suco* chiefs, HIP and partners from UN agencies, donors and NGOs. The purpose of the meeting was to share lessons learned from existing *suco* health plans and to reinforce the cooperation between MSA and MOH through integrated health programs in the PNDS and other funding sources such as the PDID and the PDD, and through stronger involvement of community leaders in community mobilization activities. HIP continued to support strengthened coordination between MOH and MSA with the aim of linking *suco* health planning and MSA funding sources so that these available funds would be used to improve health infrastructure.

²⁴*Suco* health plans were formerly known as *planu desenvolvimento saúde suco* (PDSS—*suco* health plans development).

At the municipality and administrative post level HIP focused on increasing the understanding of health personnel of the importance of involving communities in assessing and responding to their health needs in order to increase the use of health services and improve healthy behaviors. HIP also worked closely with MOH to provide health education for *suco* and *aldeia* leaders so that they are motivated and equipped to mobilize their communities to assess, understand, and plan to address health needs.

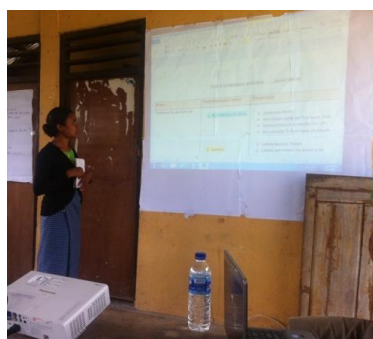


Manatuto Vila CHC manager and Cribas *Suco* Council members discussing the *suco*'s health plan.



HADIAC staff and Oecusse MPHIO for health promotion facilitating a session with Bobometo *Suco* Council towards development of their health action plan.

Community mobilization efforts were introduced in eight *sucos* to facilitate the development of *suco* action plans for health. Evidence-based interventions for improving MNCH at the community and household level were developed and reviewed annually. The plans commonly include interventions to increase coverage of essential maternal and neonatal services and improvements to health facilities. The participation of *suco* chiefs in supportive supervision visits to health facilities to assess their readiness to meet MOH basic standards motivated them to work towards obtaining the funding required for renovation and construction. HIP then assisted *suco* councils to identify and advocate for funding available through the MSA including the PNDS, PDD and PDID. The case study of Bobometo *Suco* below illustrates the process followed in many *sucos* to advocate for health facility improvements using the results of facility readiness assessments (Box 11).



Woman representative from Bobometo *Suco* Council presenting the *suco* health action plan to community (left) and USAID Mission Director and US Ambassador opening the activity with Bobometo *Suco* Chief (right).

Box 11: Bobometo Health Facility Readiness supportive supervision visits

Renovation of the Oesilo CHC and the Tumin HP was prioritized in the *suco* health plan due to the poor condition of both facilities and the impact of this on the quality of health services provided to the population. The *Suco* Council identified a potential funding source for Tumin HP through the PNDS and the *suco* and *aldeia* chiefs worked with PNDS facilitators to advocate for and then obtain funding for the renovations, including the installation of electricity and water. Another source was identified for the CHC with the PDID program.



Tumin HP with additional room built with PNDS funding.

The MOH facility readiness supportive supervision results showed that Oesilo CHC scored 61.5% overall with a minimum score on the infrastructure section (9/21 points, including important water and electricity problems); and Tumin HP achieved a total score of 39% with infrastructure problems such as lack of water, no electricity and insufficient space for consultations. Presented with this convincing argument the community prioritized the renovations of Tumin HP located in Bobometo *Suco* and serving three isolated *aldeias* above other infrastructure spending.

On completion of the renovations to bring water and electricity to the buildings, HIP continued to provide TA for improving the quality of services, including infection prevention and use of electrical equipment. As a result of these improvements the FRF score for Oesilo CHC increased by 22% between January and September 2015 and by 21% for Tumin HP during the same period.

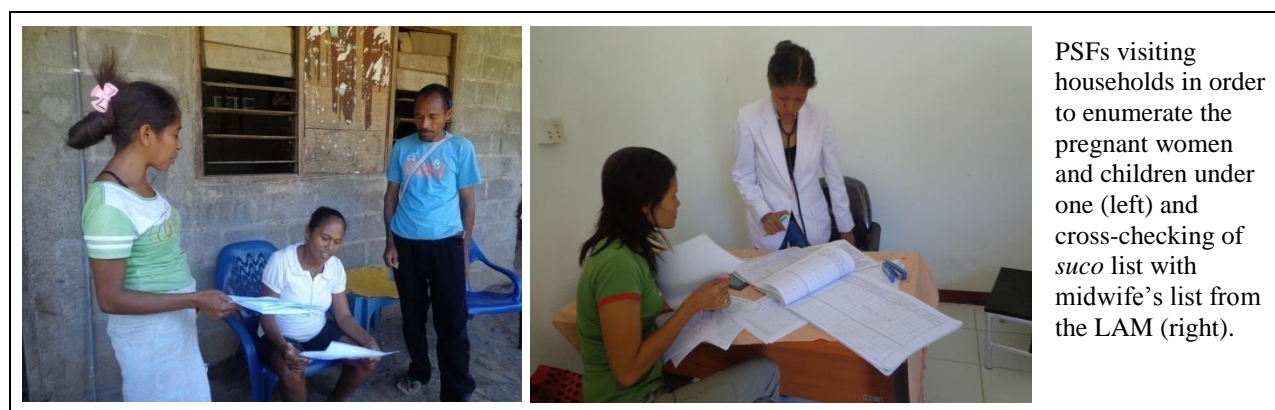
Suco councils monitor the implementation of their action plans, ensuring that key messages are delivered through SISCa, outreach events, focus group discussions, FP advocacy meetings, and other health promotion events that are planned at CHC micro-plan meetings that are held quarterly. *Suco* chiefs who have participated in health education through the development and implementation of *suco* health plans were often invited to present specific activities that provided examples of effective interventions that other *sucos* could adopt. One example was the extensive focus that *sucos* with health action plans placed on educating pregnant women and their families to prepare for safe motherhood. These interventions are described below.

Community Monitoring and Tracking of Safe Motherhood and Childhood Immunization

Using HMIS data on the number of pregnant women and children under one receiving ANC, SBA, PNC and immunization services to assess community health needs, *suco* leaders recognized that more effort needed to be made in order to allow health workers to reach pregnant women and children under one year old and increase SBA and immunization coverage. *Suco* councils and PSFs began using an enumeration tool developed by HIP to count pregnant women and link the list with the midwife's LAM register. The PSFs identified women planning to deliver at home with a family member or traditional birth attendant and others who were not

receiving ANC. HIP supported *sucos* councils and the *suco*'s facilities to organize more targeted health promotion events, including group discussions on preparing for safe motherhood. The tools were piloted in Bobometo *Suco* early in PY3. They were subsequently reviewed and a comprehensive package of tools and training materials to support community monitoring and tracking of safe motherhood and childhood immunization (outlined in 1.2.3) were approved for implementation by MOH. All *sucos* with health action plans began focusing on improving preparation for safe motherhood using the new tools to identify:

- Pregnant women and children under one.
- Information about the delivery date, ANC, whether they plan to deliver with a skilled birth attendant.
- If they have a birth preparedness and complication readiness plan.
- Where there are unimmunized children.



The process of community monitoring and tracking for safe motherhood and childhood immunization was introduced to a total of 25 *sucos* in response to requests from other *suco* chiefs particularly those whose *sucos* are served by a health facility where the NASG was implemented. As a result, between March 2014 and July 2015, 247 community leaders, 165 PSFs, and 35 health facility staff received orientation on the importance of birth preparedness and complication readiness and the use and application of the monitoring and tracking tools. The data collected by using these tools was updated on a regular basis, amounting to a total of 14 updates in Ermera, 17 updates in Manatuto and 11 updates in Oecusse, as illustrated in Table 16 below.

Table 16: Number and regularity of enumeration of pregnant women and children under one by municipality/region since PY3

Municipality/ region	PY3			PY4				Total
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Ermera	0	2	0	3	5	4	0	14
Manatuto	0	1	3	4	7	2	0	17
Oecusse	1	0	2	0	3	0	5	11
Total	1	3	5	7	15	6	5	42

Group discussions on preparing for SM

As part of assisting pregnant women and their families prepare for safe motherhood, HIP worked with health personnel in three municipalities/region to promote safe motherhood by conducting group discussions on birth preparedness and complication readiness. Fifty-nine group discussions were held to educate participants about the danger signs during pregnancy, delivery and after delivery. Pregnant women were encouraged to plan to deliver with a skilled birth attendant and to make preparations with their family about what to do in case of an obstetric emergency. A template for a birth preparedness plan developed by HIP, which was later incorporated into the revised *livrinhu saúde inan ho oan* (LISIO—mother and child health booklet) by MOH was used in this process. It includes phone numbers of the doctor, midwife and ambulance and a plan for use in case of obstetric emergency. A total of 1,317 people, including 603 pregnant women, attended these activities, as shown in Table 17 below.

Box 12: HealthNet: Improving Maternal and Child Health in Manatuto Municipality through Ensuring Equal Access to Information and Health Services

HealthNet Timor-Leste (HNTL) received US\$ 50,000 in funding assistance through HIP's SGP to continue work in the Manatuto municipality on improving maternal and child health.

The aim of the project was to provide community-based education aimed at reducing maternal and child health problems, informing the community about family planning and child spacing, reducing the incidence of malaria through improved sanitation and hygiene practices, and raising gender awareness.

The grant period was from June 2013 to June 2014 and was used to continue to support PSFs in implementing community education workshops and awareness-raising activities in 9 *Aldeias* in the target administrative posts of Natarbora and Laclo in Manatuto municipality.

During the 12 months of the project, the small grant helped HNTL to achieve the following:

- 1,075 participants (50% young women; 50% young men) attended a workshop on sexual health, risks of early pregnancies, and the importance of family planning.
- 812 pregnant women attended a workshop on MCH, including nutritious foods, food quality, hygiene and sanitation, nutritional needs for different child age groups and pregnant women, family planning, the importance of breastfeeding and exclusive breastfeeding, and the danger signs during pregnancy, delivery, and after birth.
- 525 male participants attended a workshop on how married men can support women in accessing and achieving good health for themselves and their children.
- 69 PSFs (25% male PSFs; 75% female PSFs) trained on how to implement home visit activities in the field.
- 139 pregnant mothers were visited by HNTL and PSFs through home visits.
- 353 individuals accessed information about family planning methods through community health services or health facilities.

The home visits and monitoring of pregnant women throughout and after their pregnancy was a particularly successful component of the program.

Table 17: Group discussion on birth preparedness and complication readiness

Municipality/ region	No. of group discussions		Total No. of Participants	Total No. of pregnant women
	PY3	PY4		
Ermera	4	31	874	432
Manatuto	1	4	95	34
Oecusse	4	15	348	137
Total	9	50	1,317	603

Support to CHCs in the implementation of the micro-plans

During PY1, HIP developed a checklist defining its role in supporting SISCa:

1. Obtain the quarterly SISCa schedule from CHCs in priority administrative posts, review the proposed sites and plan HIP staff and vehicle assignments.
2. Liaise with MHS to agree which SISCas will be attended by a MHS staff member for supportive supervision, so that HIP and MHS monthly plans are well-coordinated.
3. Liaise with *Suco* Chiefs to agree on the number of clients each SISCa will target quarterly.
4. Liaise with CHCs in HIP priority administrative posts weekly to confirm which of the scheduled SISCas will take place and confirm HIP and DHS staff and vehicle assignments.
5. Collect and transport CHC staff (and any MHS staff) to SISCas on the appointed day, if HIP is designated to provide transport, collecting HP staff en route if feasible and necessary. Verify that CHC staff have all necessary equipment and supplies before departure.
6. Assist CHC and HP staff, PSFs and the *suco* (and possibly *aldeia*) chiefs to ensure that the SISCa site is appropriately prepared and ready for client arrivals.
7. Assign HIP staff to SISCa tables to provide supportive supervision, if MHS staff are not involved, or to provide substitute staffing for the table if there are no CHC/HP/PSF staff available. On supportive supervision, give particular attention to rational drug use at Table 5.
8. Work with PSFs at conclusion of the SISCa to ensure that SISCa register books are compared with *rejistu saúde familiar* (RSF—family health register)²⁵ household-level registers, missing clients are identified, and PSFs prepare monthly plans for household follow-up.
9. Ensure PSFs are handed over any new promotional materials to be used for community group meetings.
10. Ensure PSFs and *suco* head are aware of the next scheduled date for SISCa at this site.
11. Transport CHC and any HP staff back to their home facilities.

This checklist, along with more materials for reinforcing SISCa organizational process (see Annex 9), was piloted in Abafala (Quelicaí administrative post, Baucau municipality) and Uma Tolu (Lacluta administrative post, Viqueque municipality). Both SISCas were very successful. Most community members from the neighboring *aldeias* participated. Health staff from the

²⁵ RSFs are target population enumeration books managed by the *sucos* and *aldeias* and brought to the SISCa to ensure that target populations are attending. RSF data is also compared with the health facilities' registers to ensure that communities not only attend SISCa but also received the services they are supposed to receive, such as ANC for pregnant women, immunization for children under one, FP for women of reproductive age, etc. During PY1 and PY2, HIP provided support to the HMIS Cabinet and priority administrative posts in re-implementing and updating RSFs for increasing coverage.

administrative post attended clients at six different tables, each focusing on a specific area of health. Each table was managed by a health officer—nurse or midwife—specifically appointed for the activity. The health officers were supported by HIP team, MPHOs, and newly graduated Timorese doctors. Standard materials, equipment, and medicine were displayed at every table, such as the RSF at Table 1, scale and LISIO at Table 2, contraceptives and MCH materials at Table 3, hand-washing and hygiene demonstration kits at Table 4, medicines at Table 5, and health promotion materials at Table 6. Table 3 had a private room for ANC consultations. Health promotion materials were available at every table and a MNCH film and discussion were held for community members the night before the SISCa. *Suco* and *aldeia* chiefs were highly involved from a few days before the SISCa to the SISCa day itself (before community members arrived, during SISCa and after the community left). The activity showed CHC officers, Lacluta and Quelicai post administrators, *suco* chiefs, MPHOs, and other partners how an ideal SISCa could be implemented.

Nurse vaccinating a child in a remote *suco* from Lacro CHC (Manatuto) (left) and mother bringing her child for vaccination and growth monitoring at SISCa in Ailili *suco* (Manatuto) (right).



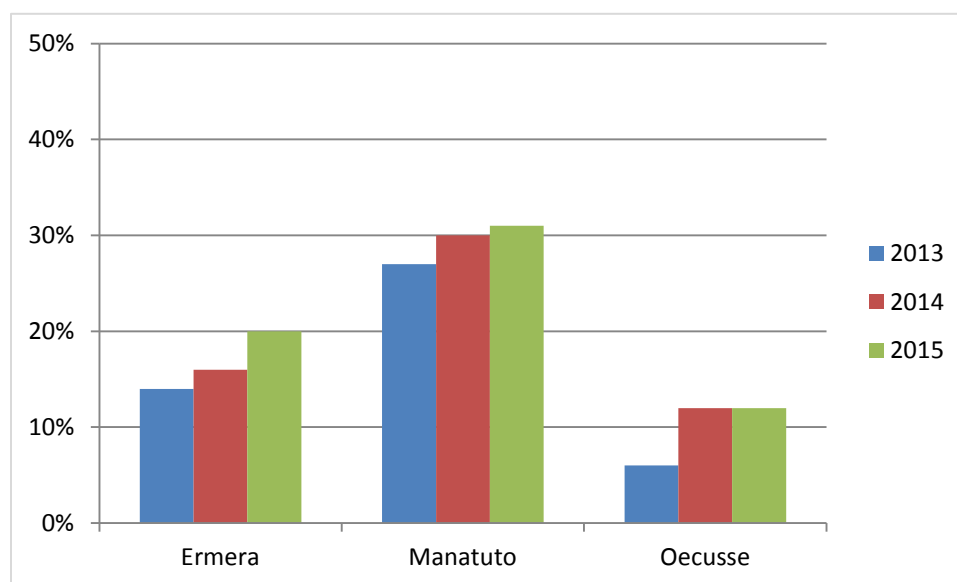
From the final quarter of PY2, HIP supported some of the outreach and SISCa sessions planned under the micro-plans, as agreed between HIP and the CHCs during 116 quarterly planning meetings. All municipalities/region included, HIP supported 49 night/day events, 147 SISCas, 53 outreach sessions and 101 group discussions.

The outreach session and SISCas provided ANC and PNC services, immunizations to pregnant women and children under one year old and nutrition services. Between January 2014 and August 2015, a total of 8,333 people benefitted from attendance at SISCa and outreach services and a further 5,408 benefitted from health promotion night or day events as shown in Table 18 below. Before January 2014, HIP supported 562 SISCas and 64 night events. The results of these activities, consistently repeated every quarter since the last quarter of PY2, have highly contributed to reaching and often exceeding most of HIP's coverage targets, e.g., for ANC, institutional delivery, immunization, and FP, as demonstrated in Section 2.

Table 18: Beneficiaries from SISCa/outreach services and health promotion events from January 2014 to August 2015

Activity	No of participants		Total	Total No. of activities	Average No. of participants in each activity
	PY3	PY4			
SISCa and outreach	4,298	4,035	8,333	142	58.7
Day/night event	3,535	1,873	5,408	49	110.4
Total participants	7,833	5,908	13,741	191	

The cumulative result of community engagement in health through evidence based micro-planning at CHC level, education of *suco* leaders, mobilization of their communities to attend SISCa, outreach, night/day events and group discussions can be seen in the increased demand for and use of services. In addition, as infrastructure improvements became an integral part of the implementation of health action plans a number of *suco* councils decided to prioritize improvements to the health facilities in their *sucos* in order to increase the usage and benefits of health services. Facility improvements and increased demand led to steady growth in institutional delivery as shown in Figure 23 below.

Figure 23: Percentage of deliveries in health institutions

Please refer to the *Technical Brief: Engaging Communities to Improve Maternal and Neonatal Health* (Annex 8).

1.4.2. FP Advocacy

Since harmonization in 2011 and subsequent joint planning between HIP and the FP Unit of MOH, advocacy has been one of the main activities for which MOH needed support from HIP. Whereas BCC and Community Mobilization (CM) involve a direct approach to individuals and families, advocacy uses influential intermediaries to engage with individuals and families and persuade them of the value of BCC. Advocacy has been proven effective in situations where there are sufficient respected influential ‘leaders’ who can be encouraged to take the time to

participate actively. MOH's focus on advocacy started several years ago. In 2010, USAID's previous health project 'TAIS' supported a national and inter-sectoral FP advocacy event. This was the starting point for the Unit to work down at the municipality, administrative post, and *suco* levels for similar events with health workers and community leaders. The project also supported some municipality and administrative post level meetings in Ermera and Manatuto municipalities and in Oecusse region).

In total, HIP supported one municipality level advocacy meeting (Manatuto), eight administrative post meetings (Pante Makasar, Oesilo, Passabe, Lacle, Natarbora, Laclubar, Soibada and Ermera Vila), and 15 *suco* meetings (Cunha, Maunaben, Lifau, Taiboco, Nipani, Costa, Usitaqueno, Bobocase, Riheu, Lihu, Samalete, and Fatubesi). Events where pre and post-tests were conducted with a sample of meeting participants showed an increase in knowledge of about 25%. The FP Unit of MOH attended several of these events. Each meeting included MHS representatives, health facility representatives (especially midwives), community leaders (*suco* chiefs, *aldeia* chiefs, and other key *suco* council members such as women representatives, youth representatives, and traditional leaders), NGOs operating in the area, PSFs, and Church representatives (catechists and priests). At each level, the objective was to teach community leaders about available FP methods, their advantages for the health, nutrition and economy of the family and community, and gain their commitment to support FP in their community.

The FP advocacy meetings involved the following steps: 1) present FP coverage data; 2) describe the different methods along with their use as illustrated on the FP poster displayed in every health facility; 3) distribute BCC materials; 4) facilitate a discussion session on how to improve coverage of the *suco* and how to increase use of different methods; and 5) receive feedback for improvement of services at the facility level and identifying further actions.

After advocacy was conducted in all focus municipalities/region, all focus administrative posts and most focus *sucos* and after obtaining the support of community leaders, HIP focused on supporting group discussion on FP with couples, ensuring that provision of services is available directly after for those who choose to use them. During the last two years of the project, HIP supported 101 FP group discussions led by health facility midwives, for a total of 1,370 participants, mainly mothers of children under one (Table 19). To reach a maximum of women in need of FP, HIP adopted the following strategy, which convinced MOH:

1. Train midwives on FP counseling: 76 received FP counseling training or refresher training while others received training specifically on the DMT for FP, a counseling flipchart on available methods in Timor-Leste introduced with TAIS support.
2. Provide supportive supervision to FP providers on a regular basis and observe and provide direct feedback on counseling session.²⁶
3. Identify the best locations for meeting potential clients, i.e., mothers bringing their children for immunization or growth monitoring, women coming for PNC, etc.

²⁶ Section 3 of the supportive supervision checklist provides a comprehensive list of essential actions to be taken by FP providers during a FP encounter, i.e., quality of the relationship between FP provider and client, discussion on misconceptions, demonstration of methods, discussion on confidentiality, description of side effects, etc.

4. Ensure that FP services are available directly after the group discussions, so that women willing to start a contraceptive method, are spared with time loss and effort involved in travelling to and from services. Several LMIS training were provided with HIP support (total FP providers trained: 34), as well as one QIC intervention, to minimize stock-outs of contraceptives.
5. If the group discussion is not taking place at a health facility, ensure good coordination with *suco/aldeia* chiefs to mobilize potential clients, and bring the services to the community, either through SISCa or through outreach.

Table 19: Number of FP group discussions held in HIP-focused locations during 2014 and 2015

Municipality/region	Number of FP group discussions			Total No. of participants	
	2014	2015	Total	Women	Others
Ermera	23	30	53	777	47
Manatuto	7	12	19	266	12
Oecusse	7	22	29	327	36
Total	37	64	101	1,370	95

Out of the 101 group discussions focusing on FP, 32 had the necessary data to allow calculation of the acceptance rate (percentage of non-pregnant women of reproductive age participating in the group discussion and accepting an available method at the time of the group discussion). The results are showing the effectiveness of this activity with acceptance rates of 29% in Manatuto, 51% in Ermera, and 43% in Oecusse (Table 20).

Table 20: FP acceptors following group discussions (2014 and 2015)

Municipality/ Region	No. of group discussions	Total non- pregnant WRA Participants	Implant	Injection	IUD	Total New Acceptors	Acceptance Rate
Manatuto	10	99	18 (18%)	1 (1%)	10 (10%)	29	29%
Ermera	12	136	53 (39%)	14 (10%)	2 (1%)	69	51%
Oecusse	10	115	36 (31%)	10 (9%)	4 (3%)	50	43%



Group of mothers participating in a FP group discussion in Manatuto.



Happy mother who choose an implant following a FP group discussion led by HP midwife in Cribas (Manatuto municipality).



Please refer to the *Technical Brief: Increasing Quality of, Access to and Use of Family Planning Services Through Engagement Across the Health System* (Annex 10).

Midwife inserting an implant to a mother of a four-month old baby.

Box 13: Cooperative Café Timor (CCT): A Sustainable Men's Health Program for Timor-Leste

The Cooperative Café Timor (CCT) received US\$ 50,000 in funding assistance through HIP's SGP to expand their pilot program in Ermera focusing on men's health in rural Timor-Leste.

Given the significant cultural tradition of men as the decision maker for household issues, including access to health services, the program aimed to not only improve men's personal health but also to enable men to assume a positive facilitating role in their family's access to health services as well as addressing gender-based violence.

The grant period was from October 2013 to September 2014 and was used to refine the comprehensive training manual to incorporate greater behavior change modifications and expand the health program to additional *Aldeias* in the 14 targeted *sucos*.

During the 12 months of the project, the small grant helped CCT to achieve the following:

- 644 individual men's health groups were held with 8,206 persons attending (79% male participants and 21% female participants). Men's health groups were established in all 90 of the 92 *aldeias* targeted in the 14 *sucos*.
- 62% of the 111 registered men's health groups received training on all 7 of the Men's Health Manual modules, which included: (1) Being Male; (2) Men as Decision Makers; (3) Men's Health; (4) Maternal and Child Health; (5) Child Spacing; (6) Men and Relationships; (7) Sexually Transmitted Infections and HIV.
- 19 of the 22 trained community volunteers remained active throughout the project period.
- 12,699 males over the age of 16 years attended one of the 4 CCT clinics in the 14 target *sucos* of Ermera over the grant period.

At the end of the grant, CCT received additional funding from the Family Planning New South Wales (FPNSW) and Australian DFAT to continue the program for an additional 21 months.

2. ASSESSMENT OF PROGRESS MADE TOWARDS ACCOMPLISHING OBJECTIVES AND EXPECTED RESULTS

The project started with three objectives defined by USAID in the contract: improving MNCH behaviors and outcomes, improving health service delivery through MOH service delivery sites, and increasing community engagement around key MNCH and FP issues.

Results in the three municipalities/region

The accomplishment of the following three objectives were measured with five coverage indicators collected through the MOH HMIS: Couple Years Protection (CYP) and number of counseling visits for FP (Figure 24 and Figure 25), ANC4 and institutional skilled delivery for maternal health (Figure 26 and Figure 27), and Diphtheria, Pertussis, Tetanus (DPT) 3 (now upgraded to Pentavalent) for child health (Figure 28).

The five figures below show these indicators increased over time during the project's four years and reached the project's annual targets requested by USAID (see Annex 11 for HIP's monitoring results over four years).

The CYP and number of FP counseling visits increase can be attributed to HIP's efforts in providing integrated technical assistance to the MOH, MHS, and health personnel in addressing all components of the FP program, including training of providers in clinical and counseling skills (using the DMT), FUAT to ensure competency, TA on LMIS to prevent commodity stock outs, continuous supportive supervision to ensure smooth implementation of the program, and intensive community mobilization interventions targeting decision-makers and couples through advocacy and group discussions.

Figure 24: Increase in CYP between 2013 and 2015 in the focus municipalities/region, compared to targets

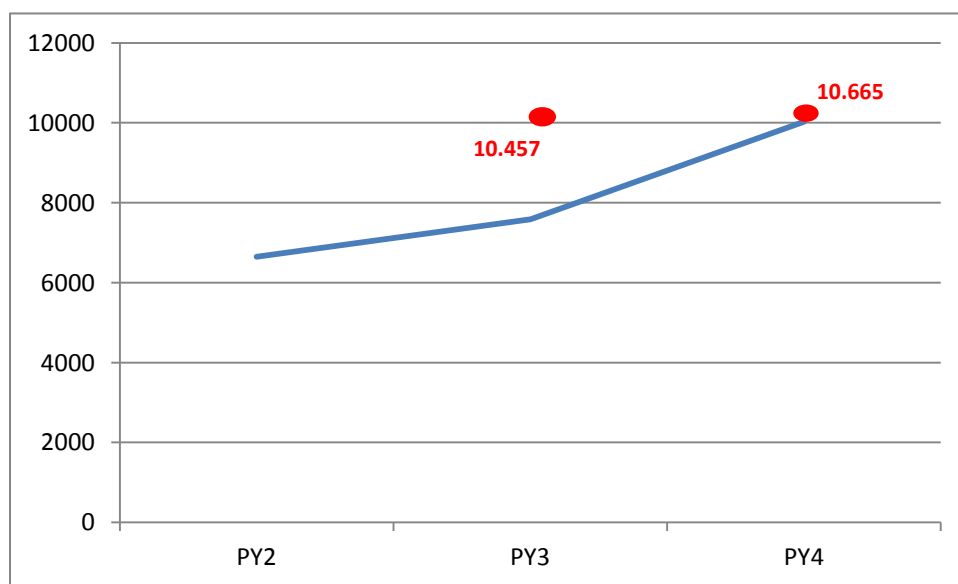
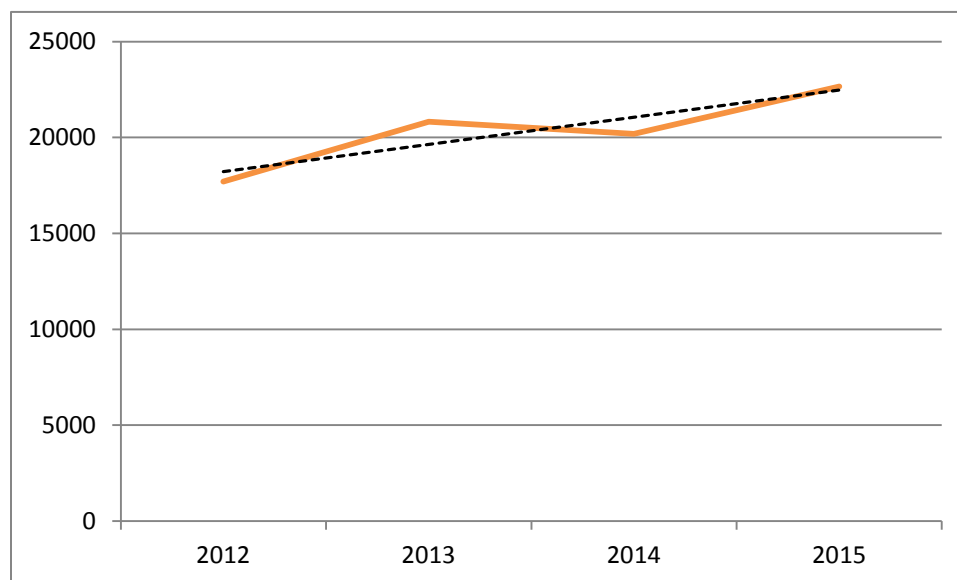


Figure 25: Increase in annual number of FP counseling visits between 2012 and 2015 in the focus municipalities/region



The number of ANC4, institutional deliveries, and DPT3 also increased regularly in the focus municipalities/region during the project's implementation. For addressing these three indicators, HIP provided TA to health facility staff, firstly to ensure the health facilities were meeting MOH standards, by using existing supportive supervision checklists from MOH (the FRF and SM/ENBC) and secondly to link appropriately with *suco* councils and community leaders in mobilizing communities around SM and immunization issues (enumeration of target population and promotion of birth preparedness/complication readiness and immunization).

Figure 26: Increase in annual percentage of women receiving at least 4 ANC checks between 2013 and 2015 in the focus municipalities/region, compared to targets

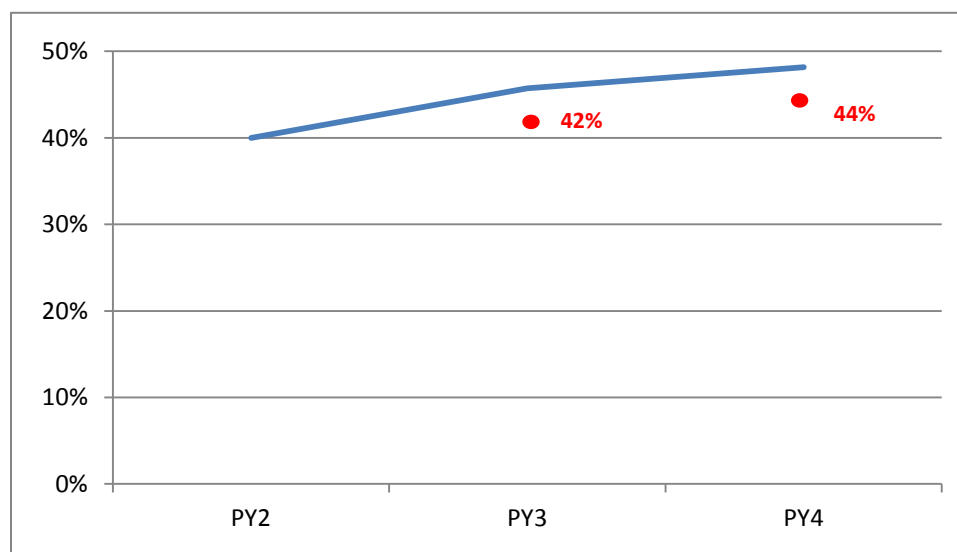


Figure 27: Increase in annual number of skilled deliveries at facility between 2013 and 2015 in the focus municipalities/region, compared to targets

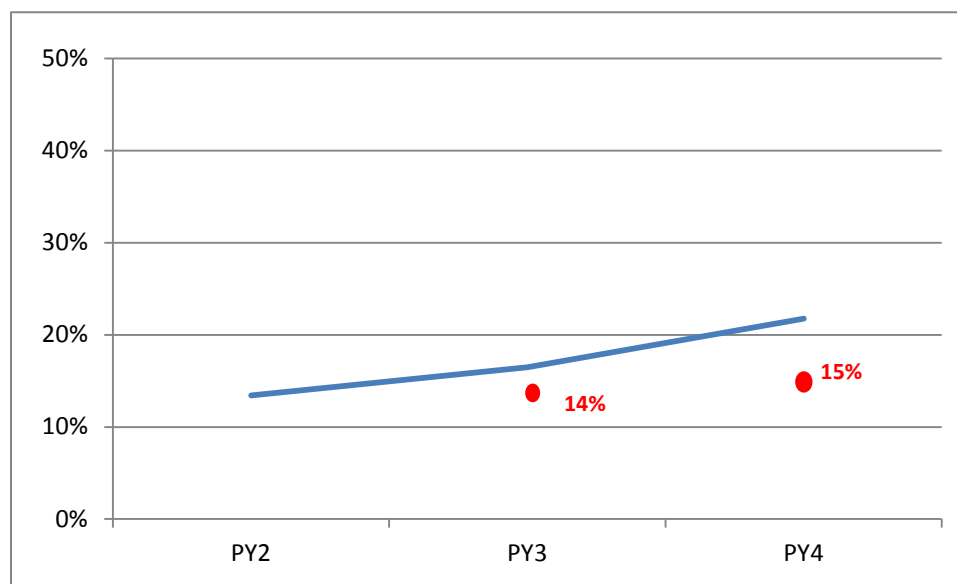
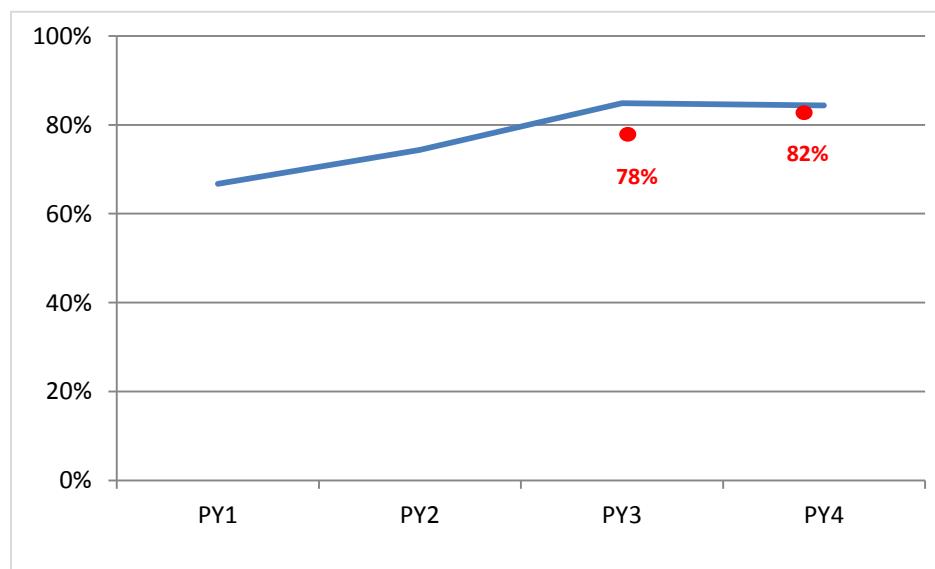


Figure 28: Increase in percentage of children who received DPT3 by 12 months of age between PY1 and PY4 in the focus municipalities/region, compared to targets



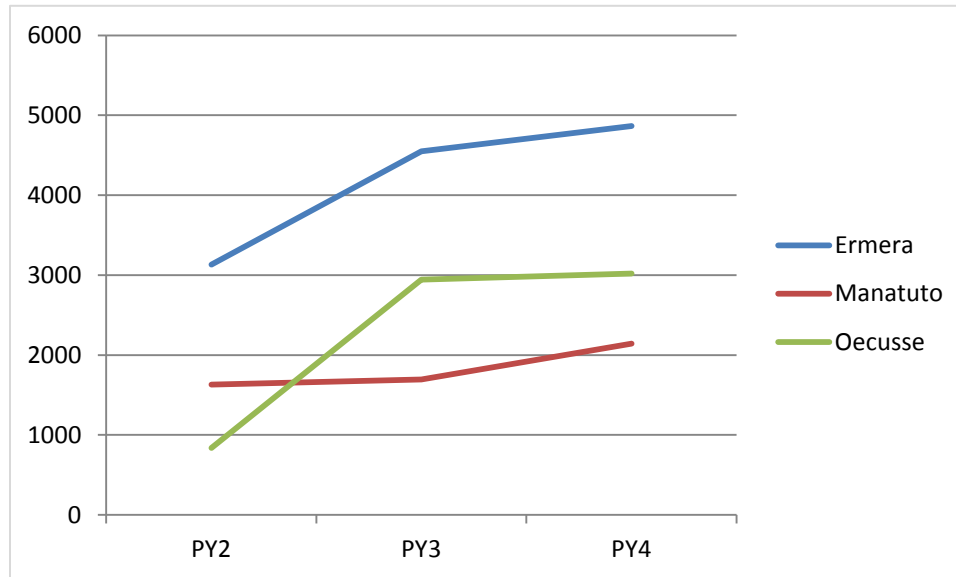
Results – Ermera, Manatuto and Oecusse

Though overall, all key coverage indicators had similar upward trends across the life of the project, it is also interesting to highlight a few differences between project municipalities/region.

For CYPs (Figure 29), both Ermera and Oecusse saw more rapid increases and higher levels of CYP increase. Although Oecusse started with the lowest CYP levels, they were able to surpass

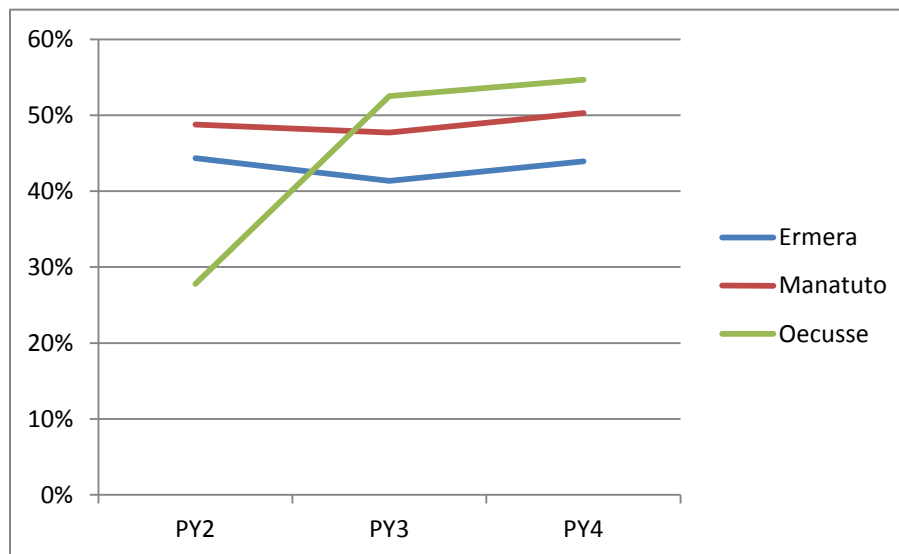
Manatuto by the end of project. Manatuto showed slow but fairly steady increases, though not at the levels seen in the other two project areas.

Figure 29: Increase in CYP between 2013 and 2015 in each municipality/region



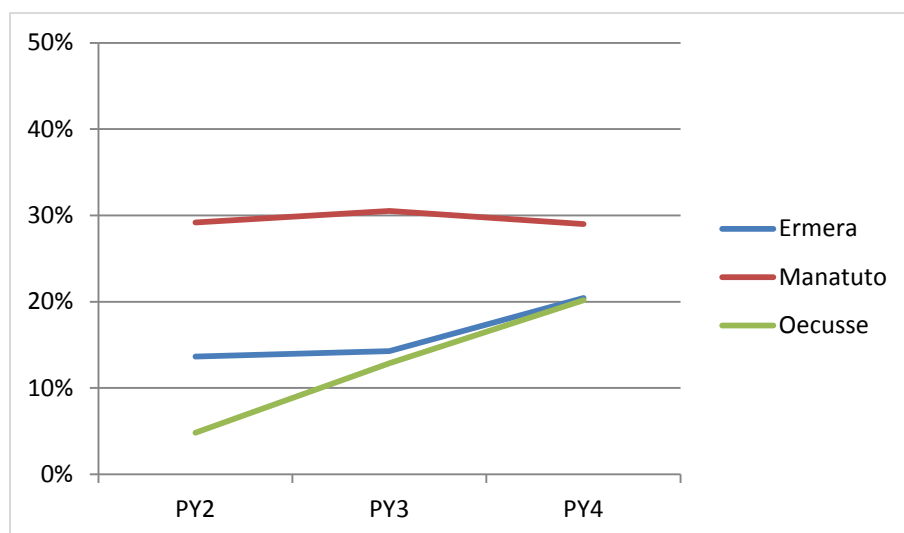
For ANC4 visits (Figure 30), the municipalities of Ermera and Manatuto had similar, parallel patterns with slow growth between the start and end of the project periods. Oecusse, in contrast, had a notable and sharp increase at the start of project activities and then a slower increase at the end of the project.

Figure 30: Increase in annual percentage of women receiving at least 4 ANC checks between 2013 and 2015 in each municipality/region



Regarding skilled deliveries (Figure 31), each of the project areas showed a slightly different trajectory. Oecusse has a straight and notable increase from the beginning to end of the project. This is also of interest when considering the notable increase in ANC4 visits from the previous chart. In Ermera, skilled deliveries increased only slightly at the beginning of the project but showed a more significant increase in the last year of the project. Manatuto, however, maintained a fairly steady proportion of skilled deliveries at around 30% throughout the life of the project.

Figure 31: Change in percentage of skilled deliveries at facility between 2013 and 2015 in each municipality/region



MMR reduction in Timor-Leste and Improvements in HIP's focus municipalities/region

In November 2015, *The Lancet* published the *Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group*, which highlighted Timor-Leste as one of the nine countries achieving “the greatest relative reduction in MMR (...) for which the point estimate of the reduction between 1990 and 2015 suggests that **the MDG 5 target of a 75% reduction has been met.**”²⁷ The estimates were calculated using existing surveys (TLDHS 2009-10 and Census 2010) in combination with covariates, the gross domestic product (GDP), general fertility rate (GFR), and skilled attendance at birth.

For TRF and CPR, progress had already been noted in the results of the TLDHS 2009-10. In HIP's three focus locations, the upward trends in FP counselling visits and CYP confirm the constant progress (see figures above).

²⁷The United Nations Maternal Mortality Estimation Inter-Agency Group collaborators and technical advisory group. November 2015. Global, regional, and national levels and trends in maternal mortality between 1990 and 2015, with scenario-based projections to 2030: a systematic analysis by the UN Maternal Mortality Estimation Inter-Agency Group (published online on November 13, 2015 in www.thelancet.com).

The TLDHS 2009-10 showed low rates of SBA at 30% countrywide with Ermera, Manatuto and Oecusse at respectively 12, 37 and 10%. However other sets of data show progress. HIP-supported research *Reducing the Burden of the Three Delays on Maternal Health in Timor-Leste* (see 3.1. below) also looked at SBA and suggests an increase in the three locations in comparison to the TLDHS 2009-10. Although both research studies used different samples and analysis methods, it is worth noting that when asked about who assisted their last delivery, 23% of the women surveyed in Ermera municipality report being assisted by skilled staff. This increase from the TLDHS 2009-10 is even more apparent in Manatuto municipality (71% used SBA) and Oecusse region (52%). A large proportion of SBA still took place at the household level rather than in a health facility. The MOH HMIS data also show upward trends in SBA from HIP's first year (2011) to HIP's last reported year (2014). Ermera municipality increased SBA by 12%, Manatuto municipality by 7% and Oecusse region by 14%.^{28,29}

3. IMPORTANT RESEARCH FINDINGS

3.1. Reducing the Burden of the Three Delays on Maternal Health in Timor-Leste: results from a Mixed Methods Study on Individual- and Community-Level Factors Contributing to First and Second Delays in Ermera and Manatuto Municipalities and the Special Administrative Region of Oecusse Ambeno (also known as the Maternal Health Study or Three Delay Study)

In order to address the gap of limited information available in the Timor-Leste context regarding the factors influencing delays in seeking care, reaching care, and receiving care, HIP supported the MOH and INS (through its Research Department) in the implementation of a mixed methods study to examine birth preparedness and complication readiness. Formally known as “Reducing the Burden of the Three Delays on Maternal Health in Timor-Leste: results from a Mixed Methods Study on Individual- and Community-Level Factors Contributing to First and Second Delays in Ermera and Manatuto Municipalities and the Special Administrative Region of Oecusse Ambeno”, it is also known in Timor-Leste as the “Maternal Health Study” and the “Three Delays Study”.

The aim of the study was to develop a better understanding of the individual- and community-level factors contributing to delays as they affect maternal mortality and morbidity. The primary objectives of the study were to:

- Identify factors contributing to delays in recognizing problems and deciding to seek care.
- Identify factors contributing to delays in reaching a facility that is able to manage obstetric complications.

²⁸ Cabinet of the Director General of the Ministry of Health. Health Statistics Report January-December 2011.

²⁹ National Directorate of Policy, Planning and Cooperation of the Ministry of Health. Health Statistics Report January-December 2014.

- Identify perceptions from key community stakeholders regarding factors contributing to delays in the availability and mobilization of community resources to address these delays.

The study was implemented in Ermera and Manatuto municipalities and in Oecusse region where HIP operated. The quantitative component of the study was administered to women of reproductive age (15-49 years) who had been pregnant in the two years prior to the survey (n=592) and their partners (n=592).

The qualitative component completed 27 focus group discussions (FGDs) among male and female community leaders and traditional birth attendants to better understand community-level influences on the decision making processes, barriers that contribute to the first two delays, and community resources available. In addition, 47 in-depth interviews (IDIs) were conducted with women who had maternal “near misses” (experienced an obstetric emergency but survived), “near miss” spouses, family members involved in deliveries in which obstetric emergencies occurred, and midwives.

For further information on the results, please refer to the technical brief: *Applying Research on the Three Delays to Reduce Preventable Maternal Death in Timor-Leste* (Annex 12) and/or the summary report: *Reducing the Burden of the Three Delays for Maternal Health in Timor-Leste: Results from a Mixed Methods Study in Ermera and Manatuto Municipalities and the Special Administrative Region of Oecusse Ambeno* (Annex 13).

3.2. Operations research on NASG

Preliminary discussion of results is presented here. Please refer to the Technical Brief: *Introducing and Scaling up Use of the Non-Pneumatic Anti-Shock Garment (NASG) to Reduce Maternal Death from Postpartum Hemorrhage* (Annex 4) or the Summary Report: *The Non-Pneumatic Anti-Shock Garment (NASG): Saving Mother’s Lives through Innovation in Timor-Leste* (Annex 5) for further information.

Throughout the implementation phases for case documentation, there were 86 PPH cases presenting at eligible sending or receiving facilities, of which the NASG was applied in 40 cases. Among 40 cases in which the PPH was determined significant enough to apply NASG, 30 were transferred to a higher level facility, while ten presented at receiving referral facilities directly.

The primary cause of hemorrhage noted in the PPH cases in Timor-Leste was retained placenta/tissue (Table 21), differing from the predominant global cause of PPH of uterine atony, which is approximately 70%. This may indicate a need for emphasis on continued training and refresher training on safe and clean delivery and BEmOC to ensure all staff are appropriately trained in the AMTSL; more intensive supportive supervision to ensure the 55 steps of labor and delivery and BEmOC skills are at a high level; and that key supplies such as oxytocin are available and potent.

Table 21: Cause of hemorrhage

Hemorrhage Diagnosis	Among All PPH Cases (n=86)	Among NASG Use Cases (n=40)
Uterine atony	21% (18)	30% (12)
Placenta previa	8% (7)	2% (1)
Retained placenta/tissue	34% (29)	35% (14)
Lacerations/tears	3% (3)	2% (1)
Ruptured uterus	8% (7)	8% (3)
Abortion complications	19% (16)	18% (7)
Abruption	1% (1)	-
Do not know	6% (5)	5% (2)

About two-thirds of the cases came from Oecusse region or Ermera municipality; about 40% of the severe PPH cases where NASG was used came from Oecusse (Table 22). It is also important to note that a doctor in Oecusse was an early adopter and advocate of the garment after a positive experience using NASG on a woman with severe obstetric hemorrhage.

Table 22: Presenting location of cases

Location	Among All PPH Cases (n=86)	Among NASG Use Cases (n=40)
Dili	16% (14)	15% (6)
Oecusse	29% (25)	40% (16)
Ermera	30% (26)	22% (9)
Manatuto	20% (17)	13% (5)
Baucau	-	-
Suai	4% (3)	8% (3)
Maubesi	-	-
Maliana	1% (1)	2% (1)

The majority of hemorrhage cases started at home, which is consistent with the majority of delivery locations taking place in the home instead of a facility. The onset of hemorrhage for the majority of severe hemorrhage cases where NASG was used started at the health facility (Table 23).

Table 23: Location of where hemorrhage started

Location of Hemorrhage Onset	Among All PPH Cases (n=86)	Among NASG Use Cases (n=40)
At home	52% (45)	40% (16)
At this health facility	43% (37)	55% (22)
At other health facility	1% (1)	2% (1)
Other	4% (3)	2% (1)

All of the hemorrhage cases where NASG was applied survived, with the vast majority having no complications (Table 24). The few cases of complications cited were primarily anemia. In one case of PPH presenting at a facility with a negative outcome, it is important to note that the monitoring system began collecting information from all facilities in the pilot sites before the

training and PPH kit distribution was completed. This particular case occurred early in the data collection process at a site where the intervention had not yet been implemented.

Table 24: Patient outcome

Outcome	All PPH Cases (n=86)	Among NASG Use Cases (n=40)
Died	1% (1)*	-
Alive, no complications	71% (61)	93% (37)
Alive, with complications	7% (6)	7% (3)
DK	21% (18)	-

*At the time, this case occurred at a facility where no staff had yet been trained and the PPH kit with the garment had not yet been distributed.



Mothers bringing their babies for immunization at the health center.



4. CHALLENGES, CONSTRAINTS AND RECOMMENDATIONS

Four years ago, HIP began implementation in an environment of high expectations. The project faced some challenges and constraints, but most were overcome to achieve the results described above. This section contains HIP recommendations for continued support to the Timor-Leste health sector.

1.1. Challenges and Constraints

- During the four years of implementation, Timor-Leste twice changed governments, which resulted in the change of high-level (the Minister of Health) and mid-level (Department Heads) leadership in the MOH. Through this process of changing key counterparts, some momentum was at times lost and the project's implementation was slowed.

- During the first few months of each year, disbursement of funding from the Government of Timor-Leste to ministries and municipalities is processed late, leaving departments and municipalities with minimum operating cash and impeding implementation of activities.
- Human resources have significantly increased at health facilities with the placement of almost 1,000 doctors and midwives newly graduated from UNTL. While their placement filled the needed gaps in human resources at the lowest level, these doctors are now in crucial need of competency-based training on basic MNCH services. Due to limited resources (human and financial), this demand cannot be fulfilled by the INS. At the national and municipality levels of the MOH, limited human resources also impact on the support that needs to be given to these and other new personnel.
- The MOH does not yet have an accredited clinical training center. This affects the effectiveness of pre- and in-service training and most students/participants do not reach competency after their training.
- The supply system is not functioning adequately from procurement to distribution. The health facilities with which HIP worked faced regular stock out problems and often additional support was required to transport drugs and equipment to the municipality, administrative post and *suco* levels.
- Health providers participating in training often go back to facilities which do not meet the required standards for infrastructure (electricity, water or sanitation), drugs, equipment or management systems. The facility readiness supportive supervision not only allowed the MOH to assess the conditions of the three focus municipalities/region's health facilities, but also to trigger change and improvement, so that facilities start reaching some of the required standards on which people were trained.
- There is no one major means of communication in Timor-Leste allowing reach to most of the beneficiaries: radio and television coverage are small and illiteracy rates are still high, especially among those with greatest needs. Other means of communication, more appropriate to Timor-Leste had to be used by the project, such as face-to-face focus discussions.
- Thirty to 45% of the health facilities are inaccessible during the rainy season. This required careful planning for coordinating training during the dry season, ensuring buffer stocks for supply, and even introducing interventions prolonging survival during transfer such as the NASG.
- The BEmOC program, essential for reducing maternal mortality, faces important constraints in Timor-Leste, including getting the supplies and inadequate competencies of health personnel. The project introduced an alternative intervention—the NASG—to increase the survival of women suffering from PPH during transport from municipalities to a functioning BEmOC center.
- Planning is an essential component to improve coverage, quality of services and health system functioning. At different levels, planning exercises were conducted too quickly without using information based on evidence.
- Results from the TLDHS 2009-10 show that despite significant progress in child mortality rates, neonatal mortality still accounts for 34% of all children's deaths. Worldwide, the main cause of neonatal mortality is infection, and this is likely to be the case in Timor-Leste, where a new or boiled blade is used in only one in five cases of non-institutional deliveries.

1.2. Recommendations

HIP would like to present the following recommendations for MOH and stakeholders with the aim of prioritizing aspects of capacity-building of the Timor-Leste health system.

Health Systems Strengthening

- **Strengthen Timor-Leste's health supply chain.**
There is a lack of standardized logistics processes and procedures at all levels of the supply chain in Timor-Leste, from ordering and resupply processes at the facility level, to procedures for quantifying national medicines requirements, to inventory management procedures at warehouses along the chain. Investment is required to move Timor-Leste to a phase where systems, processes, and coordination of supply chain efforts exist to improve the availability of products at health facilities.
- **Strengthen the BEmOC program and continue NASG intervention to reduce maternal mortality.**
BEmOC is essential for reducing maternal mortality. Its various components—qualified midwives and doctors, team work, records, LAM, essential drugs and supplies and equipment, organization/proper functioning of maternity clinic rooms, inventories, referral system, infection prevention, IEC materials—need to be strengthened to respond adequately to emergencies. This process is a long-term intervention, and until BEmOC is functioning effectively, NASG interventions should be scaled-up countrywide to improve chances of survival for women suffering from PPH during transport from municipalities to a functioning BEmOC center.
- **Implement evidence-based planning and budgeting.**
Evidence-based planning is an essential component to improve coverage, quality of services and health system functioning. At different levels, planning exercises need to be conducted using information based on evidence to reach a higher impact. Recently developed MOH Health Planning and Budgeting Guidelines and M&E Guidelines should be implemented at all levels to ensure this.
- **Support the development of a fully functional and effective blood donation system.**
While NASG is a tool that can effectively slow bleeding, it is not a treatment for hemorrhage. Therefore, it is important to ensure that countries have well-functioning blood donation systems where a supply of safe blood is readily available when needed.
- **Support evidence-based interventions to reduce neonatal mortality due to infection.**
Capitalizing on the current implementation of preventive domiciliary visits by HP doctors, consider introducing Chlorhexidine as a home based treatment of the newborn's umbilical cord where families are unable to deliver with a skilled birth attendant.

Health Organization

- **Address the different components of PHC in a coordinated and integrated manner with MOH and partners.**

From the first year of its implementation and onwards, several partners (including HIP) supported the PHC Program, up to the completion of the PHC Program Guide and Domiciliary Visit tools. There is a strong commitment from MOH for the implementation of the guides, which should be supported by all partners, without losing the focus on all PHC components (program, management, ethics and quality control, and support) and domiciliary visits.

- **Ensure functioning of health facilities isolated during rainy season.**

Planning should take into account the needs of health facilities isolated during the rainy season (30-45% of health facilities). Health managers need to take advantage of the dry season to coordinate training and ensure adequate supply of buffer stocks for drugs.

Health Personnel

- **Establish a training system with the objective of reaching competency for all participants.**

Most training ends with less than 50% of participants reaching competency on real patients. There is a need to establish clinical training centers that allow sufficient supervised practice on real patients and to increase the number of qualified trainers (including MPHOs) to cover current needs. Consideration should be given to establishing these Centers next to the National and Referral Hospitals. Pre-service clinical training should also be included in the system. Until this is established, FUAT should receive as much attention as training does.

- **Continue supportive supervision once health workers have reached competency.**

Supportive supervision assesses all components of programs, acknowledging that infrastructure, management, equipment, supplies and clients are necessary for skilled workers to provide services. For a program to provide quality services all components are necessary.

- **Ensure health providers are equipped with the skills, equipment, and support materials to identify and manage pre-existing conditions or other risk factors to minimize risk of post-partum hemorrhage (PPH).**

A small proportion of women where NASG was used were noted to suffer from severe anemia. While the women were provided iron supplements upon discharge, the anemia may have been a pre-existing condition. Although information about ANC attendance was not available through the monitoring system, it is important to help encourage ANC visits to minimize risk factors for PPH such as maternal anemia.

Individual and Community

- **Health promotion activities need to emphasize interpersonal communication and ensure promoted services are directly available.**

Radio and television coverage is very low in Timor-Leste and the illiteracy rate is still high, especially among populations with the most health needs. Face-to-face communication is most effective to change people's behavior and available services guarantee actual adoption and minimize loss of clients.

- **Support the quality and content of ANC visits and ensure appropriate birth preparedness / complication readiness (BP/CR) educational or planning materials are developed and/or provided.**

Simple planning checklists or support materials can help ensure that key BP/CR topics are covered and planned for during ANC visits to capitalize on these visits as “teachable moments”. The quality of the ANC visits needs to be consistently monitored and supported through mechanisms such as records review and client exit interviews. Equally important is to ensure providers have the necessary interpersonal skills.

- **Continue implementation of health action plans as a sustainable means of providing health education to *suco* leaders and in turn to their communities.**

Collaboration between national, municipality, CHC, and *suco* councils served as a critical building block for planning and obtaining health improvement results (in terms of community mobilization and quality improvement). Implementation of health action plans with community leaders is essential to ensure that underserved communities have evidence-based arguments to maximize their share of limited resources.

SECTION II: COMPLIANCE WITH FAMILY PLANNING POLICIES

In ensuring compliance with United States Government (USG) and USAID regulations governing voluntary FP, JSI and HIP's Guidelines governing Compliance with USAID's Requirements for Voluntary Family Planning Activities and USAID's Prohibition on Abortion-Related Activities have been strictly implemented throughout the life of the project.

Appropriate orientation, information and tools were provided to HIP staff, consultants, sub-contractors, grantees and partners regarding USG's requirements for voluntary FP activities and its restriction on abortion-related activities with which the project, its staff, sub-recipients and certain partners must comply.

In ensuring compliance with USG and USAID voluntary family planning requirements and prohibition on abortion-related activities, HIP implemented and monitored the following initiatives:

1. Project Staff

- All locally hired project employees (115) were provided detailed orientation on "USAID's Requirements for Voluntary Family Planning Activities and USAID's Prohibition on Abortion-Related Activities".
- In-house refresher training was provided for 82 staff during the project life.
- All senior staff, Small Grants Program staff, and project technical staff successfully completed USAID Global Health E-Learning Center on-line courses relating to "FP Legislative & Policy Requirements (Updated)" and "US Abortion and FP Requirements – 2013" upon recruitment and at least once every two years.

2. Monitoring of Training Activities

HIP staff monitored the work of trainers supported by HIP especially nurses, midwives, and physicians, as well as PSFs to ensure that they were in compliance with USAID voluntary family planning requirements and abortion restrictions. FP compliance inspections were conducted by HIP staff when attending or visiting training events organized and facilitated in HIP's focus districts by MOH and other organizations.

There were no cases of non-compliance identified when monitoring these training activities.

3. Health Facility Assessments

HIP conducted periodic visits to health facilities as part of its M&E activities. As part of the assessment, information was collected on contraceptive availability and usage and the presence of the "Do you know your Family Planning Choices?" poster displayed in all facilities providing FP counseling and/or services. HIP ensured that the MOH maintained a sufficient supply of these posters and provided assistance in their distribution.

4. Monitoring of Supportive Supervision Visits

HIP staff conducted regular inspections for FP compliance when visiting health facilities during routine supportive supervision activities. A total of 241 inspections and FP compliance checklists were completed.

From all 241 inspections conducted during supportive supervision visits there were no cases of non-compliance identified at these health facilities.

5. Monitoring of Community Volunteers

A total of 62 inspections and FP compliance checklists were completed during visits to community volunteers.

From all 62 inspections conducted during visits to health facilities there were no cases of non-compliance identified.

6. Monitoring of Service Delivery Sites

A total of 243 inspections and FP compliance checklists were completed at these service delivery sites.

From all 243 inspections conducted during visits to service delivery sites there were no cases of non-compliance identified.

7. Media Materials and Messages

Materials and messages produced by HIP were designed in compliance with USAID's requirements for voluntary family planning activities and USAID's prohibition on abortion-related activities.

8. Non-governmental Organizations (NGOs)

Under its Small Grants Program, HIP developed a "**Guidelines on Compliance with USAID's Requirements for Voluntary Family Planning Activities and USAID's Prohibition on Abortion-Related Activities**" setting out compliance procedures for NGO grantees. These guidelines and pre-award orientations were provided to all grantees under the Small Grants Program.

Assessment of grantee compliance was conducted during the following stages:

- Screening of NGOs during the application/proposal process.
- Visits to grant finalists to conduct a pre-award assessment using a Checklist for Pre-Award Visits to Verify Compliance with USAID's Requirements for Voluntary Family Planning Activities and USAID's Prohibition on Abortion-Related Activities.
- Obtaining signed certification of compliance from each NGO before making a grant award.
- Including the same voluntary population planning requirements required under the JSI TL HIP Contract on all grant agreements.

- Quarterly monitoring of grantee compliance once the grant activities were under way. This included visits to, and inspections of, grantee project offices and programmatic activities.

No deficiencies were identified in Grantees' compliance with FP requirements.

SECTION III: MONITORING AND EVALUATION

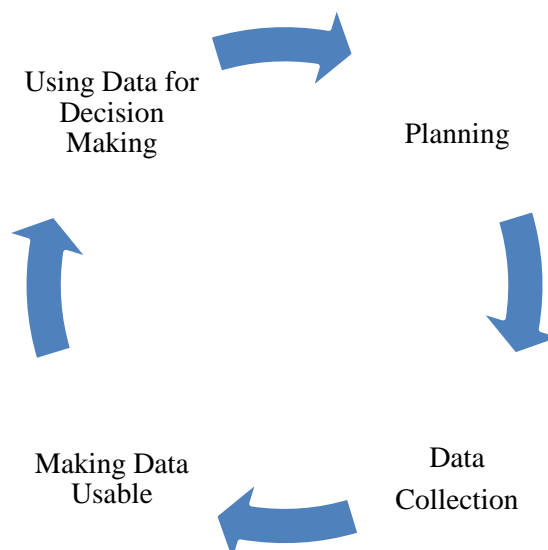
M&E has been an essential component of the management of HIP as a tool to increase evidence-based decision making. Routinely measuring performance and effectiveness has served to enable participatory discussions about best practices or areas for improvement to facilitate decision making regarding project design and implementation.

As indicated in Box 10, the M&E system has served to:

- Set benchmarks for project performance.
- Make decisions about optimal project management and service delivery.
- Ensure effective and efficient use of resources and provide accountability to stakeholders and donors.
- Learn from activities and share lessons learned and best practices internally.
- Assess whether the project has achieved its objectives.

The project M&E system was based on a four-stage cycle (see Figure 32), which included: (1) planning for appropriate indicators based on project activities and how data use informed activities; (2) data collection on required indicators; (3) making data usable by preparing and analyzing it in ways that could be easily understood and discussed by project implementers; and (4) using data for decision making and planning. This was a recurring cycle, where on a regular basis data was collected, analyzed, discussed and used to adjust planning and activities appropriately.

Figure 32: Project M&E Cycle



HIP was conceptualized, structured, and budgeted as a systems strengthening TA project and operated within USAID's strategic framework for health.³⁰ This framework consisted of one Assistance Objective (AO) and three Intermediate Results (IRs), with HIP supporting contributions to IR1 and IR2 through assistance to public sector managers and health providers primarily at the municipality/regional level.

While the overall strategic framework and objectives under which HIP operated was maintained throughout the life of the project, the project underwent several key revisions. This impacted the design of the M&E system and the indicators used to measure performance and objective achievement. The following narrative outlines several of the key changes the M&E system and indicators experienced.

PY1 (October 2011 – September 2012)

After initiation of activities in PY1 (October 2011 – September 2012), the results framework and associated indicators underwent a review. It was determined that the indicators and targets to measure higher-level health outcomes were not the best measures of the project's success. A slightly revised plan with changes to some of the indicators was proposed and discussed with the Contracting Officer Representative (COR) throughout the first project year; these changes became operational the second project year.

Also during PY1, it was anticipated that the planned baseline and endline national HFS would provide information for several of the indicators. However as mentioned in Section I, 1.2., at the request of the MOH the HFS was not implemented at the planned time. This was factored into the changes discussed with the COR, which were operationalized in PY 2.

PY2 (October 2012 – September 2013)

As a result of the processes described above, a *Proposed Revised Results Framework* was developed and accepted by the COR for PY2 (October 2012 – September 2013). This provided a revised set of process and outcome indicators that would more directly measure HIP 'project activities' and successes.

PY3 (October 2013 – September 2014)

As previously noted, in June 2013 USAID informed HIP of a \$3 million reduction in funds, requiring the Contract Modification AID-486-C-11-00003 #03.

The first result of the contract modification was a narrowing of geographic focus, where USAID and HIP agreed to reduce operations to three locations (Ermera, Manatuto, and Oecusse) from the previous five locations (Ermera, Manatuto, Oecusse, Baucau, and Viqueque) of operation. This affected the indicator targets established in the M&E plan.

³⁰ USAID/Timor-Leste developed its new Country Development Cooperation Strategy (CDCS) 2013-2018; however, HIP operated under the previous strategic framework for health through the life of the project.

A second result of the contract modification was a re-focusing of priority implementation areas. While the overall mandate and objectives of the project did not change, priority emphasis was placed on national level health support, municipality and administrative post health support, and human capacity development in MNCH and FP. The de-scaled SOW required modifications to the best set of indicators needed to measure the current scope of project activities, while maintaining a level of consistency with project operations to date.

Under the contract modifications, the set of project indicators defined included seven operational indicators the project previously reported and six new indicators. When selecting indicators, efforts were made to streamline and minimize the burden of data collection and reporting. In addition, the principle of “management usefulness” was applied to ensure that only data useful for decision making would be collected.

Further, “higher-level” impact indicators were dropped as it was recognized that the life of the project was insufficient time to impact at that level.

PY4 (October 2014 to August 2015; inclusive of two month no-cost extension)

The changes made due to the contract modifications in PY3 remained in effect with no further modifications to the project’s M&E system in the final year.

Although the revised set of indicators intended to be better aligned with HIP’s capacity-building scope and approach, it should also be noted that several indicators continued to remain co-dependent on the MOH for supplies of infrastructure, medicines, equipment, etc. As these factors were outside the project’s manageable interest, HIP could contribute to the achievement of some of the indicators but could not be solely responsible for achieving them.

The changes in indicators across the life of the project can be found in Annex 11.

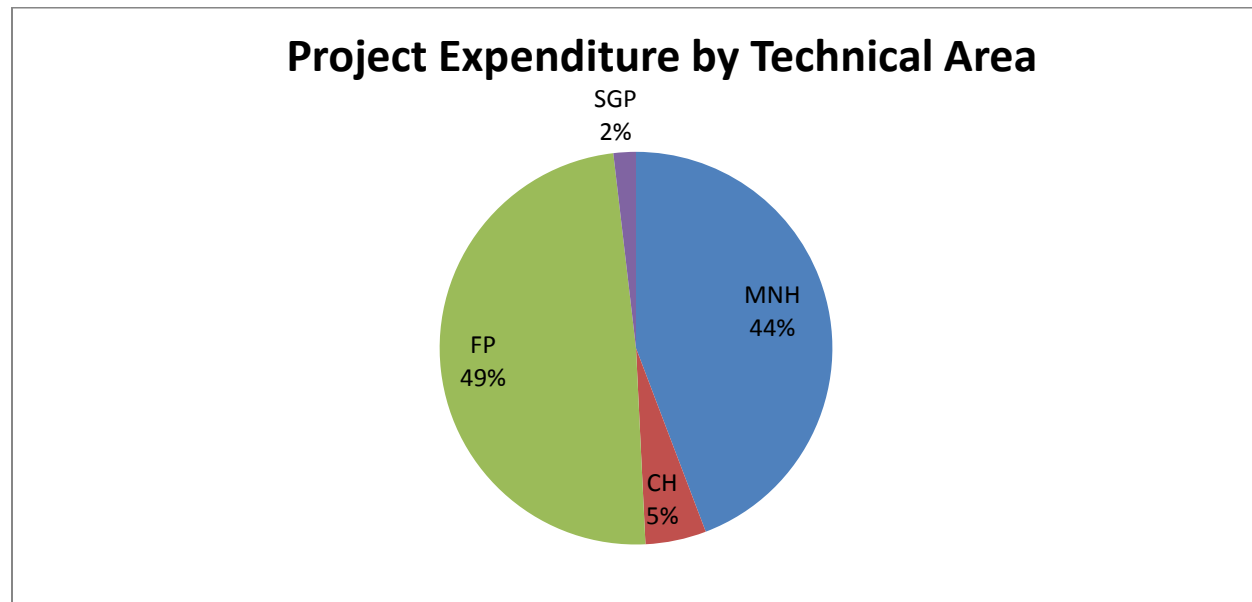
SECTION IV: FISCAL REPORT

The initial contract value for HIP upon commencement in October 2011 was \$14,994,537. Due to funding constraints the contract value was reduced by \$2,880,000 in November 2013. Subsequently HIP's small grant program was discontinued and the projects geographical focus areas reduced from 5 to 3 municipalities. In September 2014 additional funding of \$400,000 was provided by USAID allowing for the expanded SOW associated with the NASG program. The final total obligation was \$12,514,537.

Throughout the project's four-year life JSI managed HIP with constant attention to cost containment and use of cost-effective approaches. These included identifying locally available expert consultants, building upon prior successes, synergies with grantees, leveraging funds with other donors, and identification of equipment from closing USAID projects. All motorcars utilized by HIP were acquired from other USAID projects negating the need to purchase new vehicles. Local travel expenses, which represent a significant cost item for HIP, were minimized by capping the project's local travel per diems significantly below the maximum rates permissible by USAID and encouraging the use of modest local accommodation/lodging.

Hiring of volunteers was adopted whenever possible in HIP's ongoing efforts to minimize labor costs. Australian volunteers provided by the Australian Red Cross to support HIP's field activities greatly contributed to the project's efficiencies in labor costs.

Figure 33: HIP's expenditure by CLIN as % of contract value



ANNEXES

**Annex 1: HIP's implementation in Baucau and Viqueque municipalities
(October 2011-October 2013)**

HIP's implementation in Baucau and Viqueque municipalities (October 2011-October 2013)

Initially the project was implemented in four municipalities and one region; however during the last quarter of PY2 a significant budget cut was announced by USAID. A de-scaled SOW was developed, affecting several areas of the project, including HIP's support to Baucau and Viqueque municipalities.

During the two years of implementation in the two Eastern municipalities, HIP provided TA to selected administrative posts and a year later expanded to all administrative posts. Both municipalities received intensive support in the field of QI, HMIS/M&E and community activities to set up foundations for improving outcomes and coverage for MNCH and FP, as well as to improve community participation.

Table 1 is a summary of the activities and accomplishments during HIP's technical assistance to Baucau and Viqueque municipalities.

Table 1 Summary of HIP's Activities in Baucau and Viqueque

2012 – District	Administrative Post	Activities	Numbers
Baucau	Quelicaí	Provision of TA at health facility and community level.	
Viqueque	Lacluta		
Uatacarbau			
		Quality Improvement: Supportive Supervision in FP, Safe Motherhood, ENBC, IMCI,	48 and 22 SS in each district respectively
Baucau		Quality Improvement Training in defining quality and quality improvement using methodology of Continuous Coverage and Quality Improvement (CCQI)*	25 MCH and CHC Managers
		In-Service Training	18 nurses
Baucau		IMCI	18 nurses
Viqueque		IMCI	23 nurses
Baucau		FP	10 midwives
Baucau		ENCB	15 doctors, 15 midwives, to nurses
		HMIS (Rejistu Saude Familiar)	
		Logistic Management Information System (LMIS)	53 participants
Baucua and Viqueque		Community Mobilization	
Baucua and Viqueque		Support given to SISCA	20 per month in both districts

		Health Promotion Night Events	5 per district
Baucau	Lelalai	Support to Suco Councils for the Development of Health Plans	1
	Guruca		1
Viqueque	Uma Tolu		1
	Afaloicai		1

Baucau and Viqueque were not the focus of previous USAID project TAIS-II; therefore important efforts were put into the startup of these two Eastern municipalities. Both Baucau and Viqueque offices were set up and personnel recruited early in 2012, so that action plan harmonization could take place at the same time as in Ermera, Manatuto and Oecusse. Implementation of HIP's PY1 work plan started during the second quarter of PY1.



Quelicai CHC nurse explaining the under-5 children growth chart to the Mission Director and US Ambassador (left) and the HIP, USAID and U.S. Embassy delegation with Viqueque MHS director and young Timorese doctors recently graduated from the national university (right).

Annex 2: Technical Brief: Building Capacity to Improve Maternal, Newborn, and Child Health and Family Planning Outcomes

Timor-Leste Health Improvement Project

Building Capacity to Improve Maternal, Newborn, and Child Health and Family Planning Outcomes

The United States Agency for International Development (USAID) supports the **Health Improvement Project, known locally as HADIAK**, as part of the overall United States Government package of assistance to Timor-Leste. HADIAK is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), municipality level (municipality health services–MHS), administrative post level (community health centers–CHCs), and community level (health posts–HPs and integrated community health services–SISCa) to benefit health workers and communities through mentoring and training. Implementation focuses on the municipalities of Ermera, Manatuto, and Oecusse.

INTRODUCTION

The USAID–supported Timor-Leste Health Improvement Project (TL-HIP) with additional support provided by the Australian Department of Foreign Affairs and Trade (DFAT), used a holistic capacity building approach to achieve measurable impact in maternal, child, and newborn health (MCNH) and family planning (FP) outcomes. The cornerstone of HIP's approach was providing technical assistance to strengthen people, systems, organizations, and communities by capitalizing on local resources, inclusive partnerships, and appropriate adaptations to the local context.

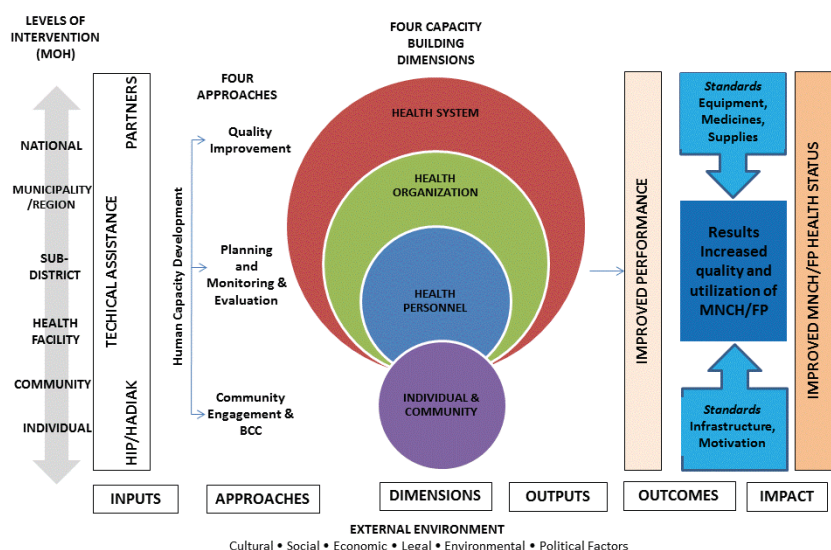
APPROACH: FRAMING CAPACITY BUILDING IN HIP

HIP defined capacity building as “a process that improves the ability of a person, group, organization, or system to meet objectives or to perform better.”¹ It suggests that no single approach is sufficient. Rather, enabling effective health promotion, service provision, and service utilization requires the simultaneous and continuous development of people, systems, structures, and functions.

An improved health outcome depends on a well-performing health system, which in turn depends on the capacity of the system and individuals *within* and *connected* to that system to perform well. To address these multiple levels and functions, HIP simultaneously focused on health system functions, health staff ability to perform their work functions, and individual ability to engage with the health system to access services.

To achieve this, HIP drew upon a conceptual framework outlined by previous work done

Figure 1: Conceptual Framework for Capacity Building

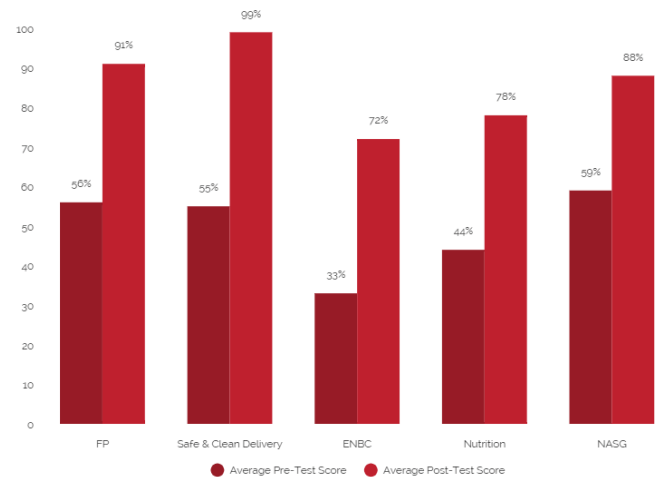


by USAID through MEASURE Evaluation² around capacity building in health sector assistance programs. The framework, adapted to reflect the HIP approach, maps the core elements and linkages needed to improve MNCH/FP health status (Figure 1).

HIP's technical assistance inputs provided directly to Ministry of Health (MOH) and community counterparts was integrated into every project activity. This facilitated skills strengthening among those ultimately responsible for ensuring system sustainability. It also built directly upon existing structures and MOH tools to ensure parallel systems that were not sustainable beyond the life of the project were not created.

These investments resulted in improved systems and individual capacity to increase the quality and utilization of health services. Sustained over time, improved health status at the population level can be achieved.

Figure 2: Difference in pre-test and post-test training scores from a sample of 83 trainings implemented by INS and HIP



A CLOSER LOOK AT CAPACITY BUILDING IN ACTION

The following provides illustrations of how HIP utilized capacity building approaches to develop and strengthen each of the four key capacity building dimensions outlined in the conceptual framework.

Health Personnel Dimension

Human resources in the health sector - such as health care providers, health facility managers, health advocates, and other health system support personnel - are critical to any capacity building or change process. For a health system to work effectively, a sufficient number of motivated staff with appropriate competencies is needed. Therefore, capacity development of health personnel is at the core of all HIP activities.

HIP's strategic approach underscored the fact that for health personnel to be effective they must first have the knowledge and skills to perform managerial, technical, and support roles. Second, they must be in an environment with appropriate supplies and materials to perform their work. For this reason, capacity strengthening among health personnel was approached both as discrete training activities as well as integrated into all collaborative work used to address other systems, organizational, and individual/community dimensions.

To strengthen human capacity via training, HIP used a collaborative approach by coordinating all in-service training with the Maternal Child Health (MCH) Department and the National Health Institute (INS—*Instituto Nacional de Saúde*), using only INS-approved materials to ensure consistency across national guidelines and protocols.

Critical to strengthened human capacity is improved knowledge and skill development. Using a quality improvement approach, HIP administered pre-test and post-test questionnaires to over 1,700 health personnel trained in more than 60 training sessions to ensure knowledge levels were achieved. As a result, improvements in knowledge and skill levels were noted. For example, in a sample of family planning (FP), safe and clean delivery, essential newborn care (ENBC), nutrition, and non-pneumatic anti-shock garment (NASG) trainings, post-test training scores improved by an average of 35% (range of 29% to 44% increase in scores).

In order to ensure identified skills were acquired, provider competency was assessed post-training using the MOH

Follow-Up After Training (FUAT) checklist. With the support of HIP, 454 supportive supervision visits for FP, Safe Motherhood (SM) and ENBC, Expanded Program on Immunizations (EPI), and Integrated Management of Childhood Illnesses (IMCI) were implemented throughout the life of the project. These supportive supervision results showed improvements in the correct use of a partograph, correct prescription for antibiotics, adherence to infection prevention requirements, improved safe delivery skills, and appropriate application of feeding assessments performed on children less than 2 years of age with anemia or low weight.

Increased capacity of health personnel to provide FP counseling as well as improved competency in skills for implant and IUD insertion, for example, can improve both the demand for and utilization of FP services. One result of these efforts that can be seen is an uptake of services, demonstrated in both the increase in the number of FP counseling visits made as well as improvements in Couple Years of Protection (CYPs) over the life of the project.

While individuals can function independently, the other system components – such as providing health care services, managing a health facility, and ensuring quality practices, procedures, and protocols, are followed – require a human element to do so.

Therefore, while direct training approaches utilized by the project were critical to strengthening health personnel capacity as a discrete dimension, the project's approach also ensured that on-going coaching and mentoring were integrated into the other systems, organizations, and individual/community dimensions as well.

Health Systems Dimension

The health systems dimension includes the personnel, resources, planning, and institutions or organizations related to financing, regulation, or the provision of health care which guides health service delivery and health promotion.^{3,4} HIP's technical assistance focused on collaborating with MOH, INS, and other relevant partners to ensure the appropriate and necessary policies, protocols, tools, and guidelines needed to improve MNCH/FP outcomes and behaviors were developed and disseminated.

For example through HIP's quality improvement approach, HIP provided intensive assistance to the MOH's Family Planning Unit and Quality Control Cabinet to strengthen its Logistics Management Information System (LMIS) to improve the availability and use of data for contraceptive supply chain management and reduce stock outs of essential contraceptive commodities.

Through the planning, monitoring, and evaluation approach, HIP also collaborated with the MOH's Planning and M&E Department to promote and support evidence-based planning at national, municipality, administrative post, and suco levels. This included the development of the *Health Planning and Budgeting Guidelines* and new planning templates at the national level to facilitate the overall process.

Technical Working Groups (TWGs) on FP, MCH, immunization, and nutrition at the municipality/region, sub-district, and administrative post levels were also established through HIP's participation in the National Health Sector Coordination Committee (NHSCC). TWGs were tasked with monitoring the implementation of the annual plans as well as coordinating Ministry, partner, and donor activities in their respective areas.

Figure 3: Family Planning Counseling Visits

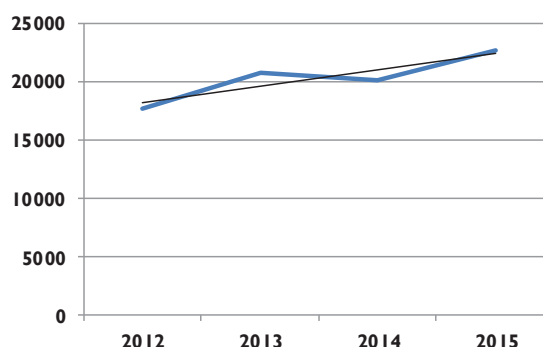
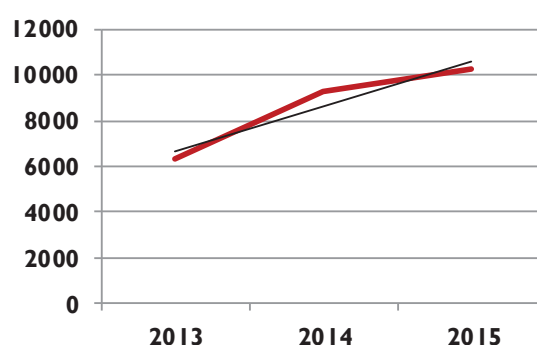


Figure 4: Couple Years of Protection (CYPs)



These technical assistance efforts resulted in improved system-wide capacity to identify causes of stock out problems and develop solutions to improve contraceptive availability, particularly at the municipal/regional level where most stock outs were occurring. Additionally, there was increased systematic use of existing data to plan and cost activities at all levels which improved capacity to address gaps and strengthen facility readiness and coverage.

Health Organization Dimension

The health organization includes the structures, processes, and systems in place that allow the organization to produce goods and services, such as quality of care, at an acceptable standard.⁵ Within the scope of HIP activities, this primarily refers to the ability of health facilities to deliver high quality health services. HIP's technical assistance focused on strengthening the organizational and management capacity of facilities to ensure that a basic package of quality MNCH/FP services was offered.

HIP operationalized the quality improvement approach by providing intensive technical assistance to the MOH and facilities to implement the MOH's Facility Readiness Format, a checklist to determine if a facility meets basic service package standards. The checklist guides the facility in not only ensuring the delivery of quality basic services but also builds the capacity of facility personnel to plan for improvements, address gaps, and allocate needed resources.

Regular checklist implementation also allowed for monitoring the facility over time to ensure that basic standards were consistently achieved. For example, in Letefoho Community Health Center (CHC) the facility received a score of only 67% at baseline, below the minimum of 75% needed to achieve basic service standards. The checklist identified below standard components, allowing facility management and personnel to quickly identify areas for improvements in resource allocation and planning. Subsequent implementation showed a continuous trajectory of improvement at this CHC over time.

In Atsabe CHC, while an initial score of 74% indicated basic service standards were being met, a follow-up score of 62% represented a significant drop. Through technical assistance in planning and resource allocation, HIP helped the CHC personnel identify where gaps had emerged and develop plans to address them accordingly. Subsequent monitoring showed continuous improvements of almost 90%.

Using the planning, monitoring and evaluation approach, HIP also worked to develop capacity among CHC staff to implement the micro-planning tool. The tool - initially developed by the World Health Organization (WHO) for immunization - was expanded to include antenatal care (ANC), skilled birth attendance (SBA), postnatal care (PNC), and FP. The tool promoted a targeted, bottom-up, participatory, action-oriented process, guiding facility staff to use data to identify and address gaps in health service delivery. Community leaders, organizations, and community-based health promoters are also involved in analyzing the information, setting priorities, and the action planning process.

Through these technical assistance efforts, 16 CHCs improved organizational capacity to plan and address service gaps to increase coverage of essential MNCH services. One key result is improved coverage for immunization of children

Figure 4: MOH Checklist Scores at Implementation for Letefoho CHC

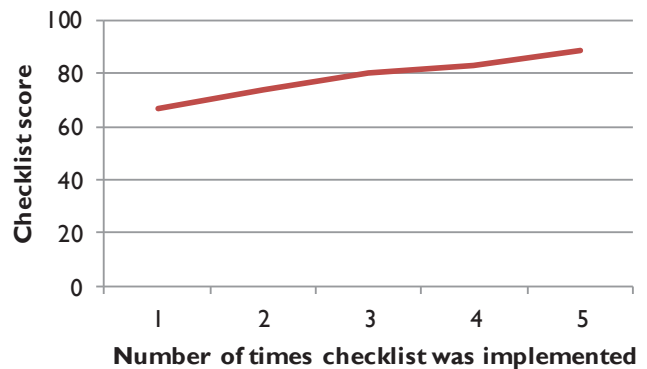
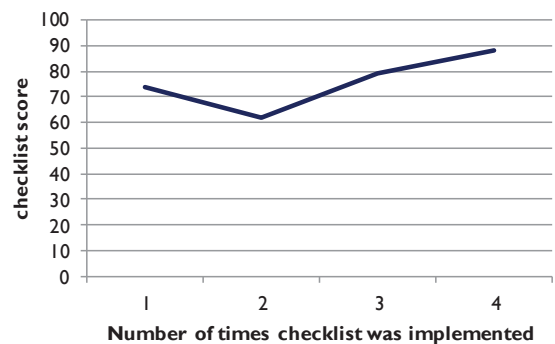


Figure 5: MOH Checklist Scores at Implementation for Atsabe CHC



under-one year of age of at least 80%. For example, in the three target municipalities of Ermera, Manatuto, and Oecusse over 83%⁶ of children were immunized in 2015. In addition, over 253 technical assistance visits for the Facility Readiness Format were completed over the life of the project.

Individual and Community Dimension

While individuals are essential to improving their own health status, they can also play an important role in shaping health systems. Community engagement to increase demand for MNCH/FP services through a focus on individual education as well as training of local leaders to identify community needs and secure local resources to address problems helped HIP build individual and collective action.

A key example of HIP's community engagement was the implementation of the Maternal Health Community Study with the MCH Department and INS to examine the individual and community factors affecting delays in deciding to seek care, reaching care, and receiving care for obstetric emergencies. In responding to the study results provided to each of the project municipalities/region, Municipality/Region *Action Plans* were developed by municipality leaders, Public Health Officers, and staff from health facilities. The joint planning process provided an opportunity to consider the implications of the study, identify community resources to address gaps, and strengthen collaboration between community leaders and health providers.

Action plans developed at the municipal/regional level were subsequently used in the MOH Annual Planning and Budgeting Cycle to develop the *2016 Annual Implementation Plan (AIP)*. The action plans provided an evidence-based argument for resourcing the activities necessary to address the factors contributing to delays in seeking, reaching, and receiving care. As a result, the municipality/region-specific AIPs focused on increasing the demand for services to support safe motherhood and on improving the quality of treatment received at health facilities. These activities will be funded in the 2016 health budget.

Another example of HIP's community engagement approach was community monitoring and tracking of safe motherhood and childhood immunization. Suco councils and Family Health Promoters (PSFs—*Promotores Saude Familia*) utilized a HIP-developed enumeration tool to identify and count pregnant women planning to deliver at home or others not receiving ANC and link this list with the midwife's Local Area Monitoring (LAM) register. HIP then supported suco councils and nearby facilities to organize health promotion events such as group discussions on

Figure 6: Number of Children Who Received DPT3 by 12 Months of Age

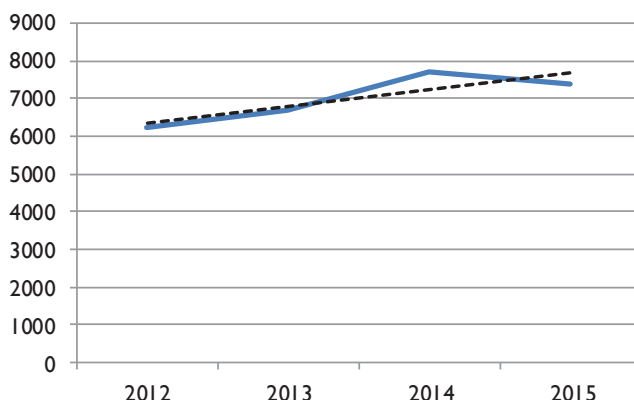


Figure 7: Number of Skilled Deliveries at Health Facilities

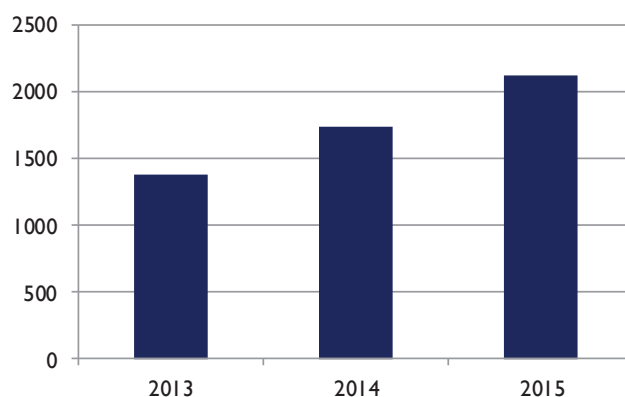
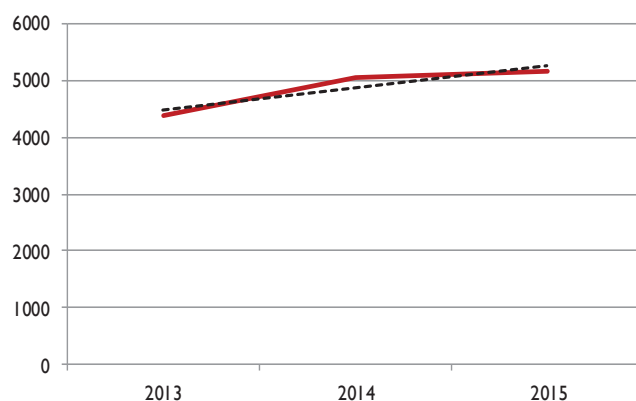


Figure 8: Number of Pregnant Women Receiving at Least 4 ANC Checks



preparing for safe motherhood to target these areas. A total of 1,317 people attended group discussion activities, including 603 pregnant women.

Additionally, the community element of the micro-plans developed by CHCs in collaboration with local community organizations and leaders was implemented. During 116 quarterly planning meetings, HIP supported 49 night/day events, 147 Integrated Community Health Services (SISCAs—*Servisu Integradu da Saude Comunitaria*), 53 outreach sessions, and 101 group discussions in the project target districts. During some of these sessions, ANC and PNC services, nutrition services, and immunizations to pregnant women and children under-one year were also provided.

The cumulative effect of these efforts in community engagement resulted in improved coverage results over the life of the project. For example, from 2013 to 2015 skilled deliveries at health facilities steadily increased from 1,386 to 2,219 in project areas. The number of women utilizing ANC services also increased in project target areas from 4,380 pregnant women receiving at least 4 ANC visits in 2013 to 5,162 pregnant women in 2015.

In addition to coverage improvements, efforts have also resulted in improved community capacity to identify and prioritize needs. For example, as infrastructure improvements became an integral part of the implementation of health action plans, a number of suco councils prioritized health facility improvements in their coverage area in order to increase usage and benefits of health facilities. These factors also had a simultaneous effect on increasing coverage for skilled birth deliveries and ANC visits for example.

CONCLUSION

It has become increasingly evident that for health sector programming that there is no “one size fits all” approach, particularly when addressing capacity building. Given the dynamic, non-linear, and multidimensional nature of the concept itself, priorities can change one - or multiple - times throughout the life cycle of a project. This requires the approach to be able to adapt quickly to shifting contexts, needs, and priorities.

HIP’s flexible framework to provide technical assistance through collaborative partnerships with the MOH and other key Ministry partners allowed the project to be responsive to the changing environment. When MOH priorities changed or emerged, HIP already had established relationships through which to be responsive. For example, when the Ministry of Health’s *Facility Readiness Format* checklist became available, HIP’s existing strong partnership allowed the checklist to be immediately piloted in a project municipality and later quickly scaled-up nationally.

While a number of factors were outside the project’s manageable interests, such as the availability of equipment, medicines, and supplies for example, there is clear evidence of increasing coverage of key FP and MCH indicators. Though capacity development is a long-term endeavor, improved system performance to provide services as well as individual performance in accessing services can achieve measurable impact at all levels.

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1. LaFond, Anne and Brown, Lisanne. *A Guide to Monitoring and Evaluation of Capacity-Building Interventions in the Health Sector in Developing Countries*. MEASURE Evaluation Manual Series, No. 7 Carolina Population Center, University of North Carolina at Chapel Hill. 2003.
 2. JSI is an implementing partner of MEASURE. See: <http://www.cpc.unc.edu/measure/>.
 3. LaFond, Anne and Brown, Lisanne. *A Guide to Monitoring and Evaluation of Capacity-Building Interventions in the Health Sector in Developing Countries*. MEASURE Evaluation Manual Series, No. 7 Carolina Population Center, University of North Carolina at Chapel Hill. 2003.
 4. *Everybody's business. Strengthening health systems to improve health outcomes: WHO's framework for action*. WHO. 2007.
 5. LaFond, Anne and Brown, Lisanne. *A Guide to Monitoring and Evaluation of Capacity-Building Interventions in the Health Sector in Developing Countries*. MEASURE Evaluation Manual Series, No. 7 Carolina Population Center, University of North Carolina at Chapel Hill. 2003.
 6. Based on a target population of 8,931 and DPT3 instances of 7,382 in 2015.

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Annex 3: Technical Brief: Facility Readiness Format: Improving Service Delivery at Health Posts, Health Centers, and Hospitals

Timor-Leste Health Improvement Project:

The Facility Readiness Format: Improving Service Delivery at Health Posts, Health Centers, and Hospitals

The United States Agency for International Development (USAID) supports the **Health Improvement Project (HIP)**, known locally as **HADIAK**, as part of the overall United States Government package of assistance to Timor-Leste. HIP is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), district level (district health services—DHS), sub-district level (community health centers—CHCs), and community level (health posts—HPs and integrated community health services—SISCa) to benefit health workers and communities through mentoring and training. Implementation focuses on the districts of Ermera, Manatuto, and Oecusse.

INTRODUCTION

Improvement of all health indicators targeted by the USAID | Health Improvement Project (HIP) in Timor-Leste rests heavily on the capacity of health facilities to provide the basic package of services. Functionality and condition of facility equipment and premises as well as trained and competent staff are essential to providing quality services.

It is estimated that 90% of the country's infrastructure, including health posts, health centers and hospitals, were damaged or destroyed at the close of the 24 year Indonesian occupation of Timor-Leste, leaving much of the Timorese population without reliable access to primary care and emergency services. Furthermore, with a ratio of 1.3 health workers per 1,000 individuals, Timor-Leste only has half of the number of health workers recommended by the World Health Organization (WHO) to provide sufficient coverage of services at health facilities. These factors have contributed to poor health outcomes, including high rates of maternal and under-five mortality (557 deaths/100,000 live births, and 64 deaths/1,000 births, respectively).

HIP provides technical assistance to the Ministry of Health (MOH) to improve infrastructure, increase human resources' capacity, and improve quality of services at health facilities in three districts—Ermera, Manatuto, and Oecusse. In total, 57 health posts (HPs), 16 community health centers (CHCs), and one hospital (the Oecusse Referral Hospital) are supported by the Project.

APPROACH

HIP's approach to support facility readiness focuses at both the national and district levels. On the National level, HIP assists the MOH in the development of the *Facility Readiness Format (FRF)*—a set of comprehensive, standardized checklists to be used by facility managers at HPs, CHCs, and hospitals to assess and improve facilities' capacity to provide services outlined in MOH key strategies. Components of the FRF tools include human resources, building and environment, furniture and equipment, services, and data and documentation. Facilities receive percentage 'readiness' scores based on the FRF; a 'readiness' score of 80% or higher is required to meet MOH standards. Implementation and oversight of the FRF is carried out through supportive supervision visits conducted by MOH personnel with support from HIP.

The FRF was piloted at district level in five facilities in HIP-supported districts (two HPs, two CHCs, and the Oecusse Referral Hospital) between April and July 2013. During this period, each pilot facility participated in two supportive supervision visits. Infrastructure renovations at pilot facilities were carried out by the U.S. Navy Civic Construction Action Detail (Seabees) through a partnership coordinated by HIP. During the pilot phase, the facilities' average readiness score increased from 44% to 89%; following these positive results, HIP supported MOH to scale up the FRF to 69 additional facilities.



KEY ACTIVITIES

Training for capacity development at district and national levels

In December 2013, 32 personnel from the three District Health Services (DHS), the MOH, and HIP were trained in supportive supervision using the FRF by the Department of Planning and Monitoring and Evaluation (DPME) and the Department of Quality Control.

Conducting supportive supervision for health facility readiness

The trained personnel conducted supportive supervision to the 69 accessible facilities from the three districts. In total, one referral hospital, 16 CHCs and 52 HPs were supervised.

Workshops

HIP assisted the MOH to coordinate a workshop in each project-supported district that brought together MOH staff from all levels of the health system (facility to national level). Community leaders and personnel from other (non-MOH) government sectors were included in the workshops. High-level support from the MOH was shown through attendance by the Vice-Minister of Health. The success of the five pilot facilities in meeting the basic package of services standards was presented at each workshop to demonstrate the impact of the FRF tools. With guidance from HIP, attendees used baseline FRF scores obtained during the supportive supervision visits to develop short-, mid-, and long-term strategies to improve scores at a total of 69 facilities across the three districts.

Community engagement and multisectoral collaboration

Multisectoral and community involvement in FRF assessment and action planning were essential to establishing diversified funding mechanisms for larger investments in infrastructure renovations and to continued community support for facility upkeep and maintenance.

Community leaders and personnel from other (non-MOH) government sectors were included in the workshops, including the Vice-Minister of Health. Community leaders were led through FRF supportive supervision visits at their respective health facilities to observe the conditions, better understand the improvement process, and identify ways for communities to contribute to improvements. Based on planning at the workshops, 19 facilities have undergone infrastructure improvements with funding outside of the MOH, including significant funding from the National Program for Village Development.

Supportive supervision

Supportive supervision is one of the key strategies utilized by HIP to provide one-on-one feedback to health facility staff. Through supportive supervision visits, the availability and quality of services at each facility are measured and assessed, and improvement plans are devised and monitored. DHS personnel review the FRF checklist with facility managers and develop short- and long-term action plans to improve scores. Short term plans include enforcing basic maintenance and cleanliness protocol, displaying up-to-date information, education, and communication (IEC) materials, and updating registers. Longer-term improvements include ongoing training of health personnel and major infrastructure improvements. Most facilities received two supportive supervision visits between January and July 2013.

Infrastructure renovations and improvements at pilot facilities

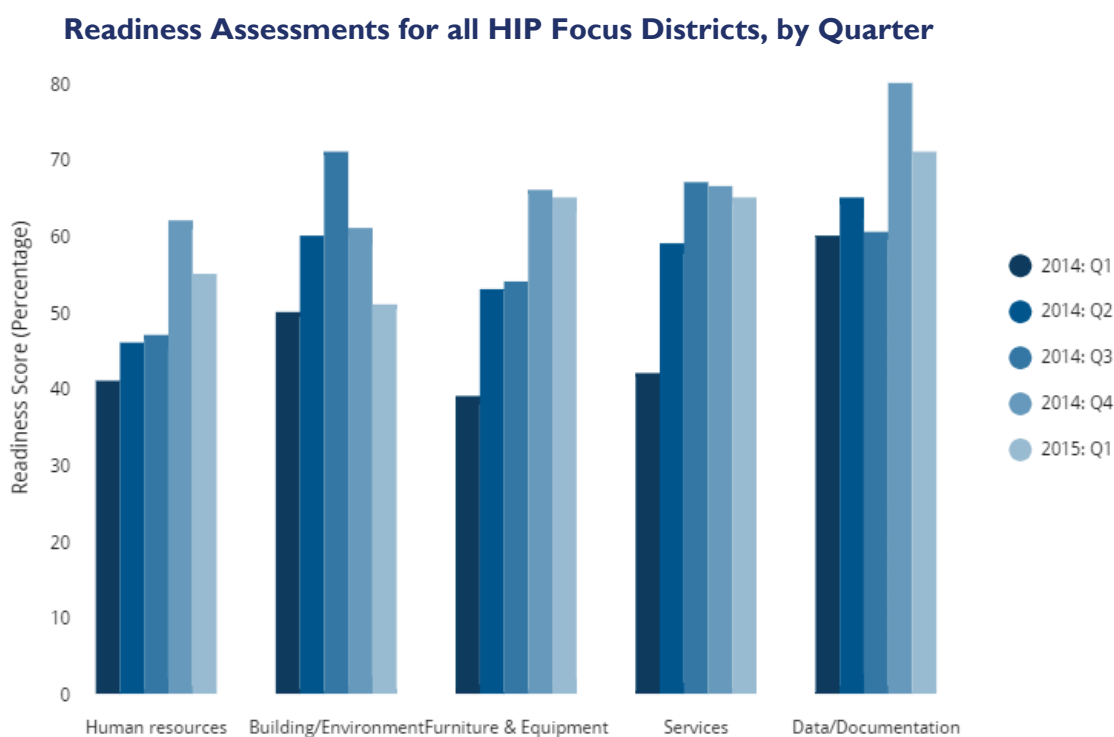
HIP facilitated a partnership with the U.S. Navy Seabees to renovate the five pilot facilities: the Usitaco and Bebo HPs in Oecusse, the Gleno CHC in Ermera, the Boacnana CHC in Oecusse, and the Oecusse Referral Hospital. Key renovations included installation of running water from protected water sources, installation of washbowls, installation or rewiring of electrical systems, replacement of electrical fixtures, installation of rain gutters, repainting, and replacing floors. MOH, HIP, and St. John of God Health Care collaborated to assemble needed equipment (such as maternity beds), reorganize the filing system and the emergency rooms, set up referral systems, display health promotion materials, resupply stocks for consumables, and thoroughly clean the facilities.

HIP and St. John of God subsequently trained facility staff on activities related to the improvements, including infection prevention using running water, and use and maintenance of new equipment and utilities.

RESULTS

Facilities that received district and community support, supervision visits, and underwent renovations and improvements through the collaboration between HIP, the U.S. Navy Seabees, and St. John of God Health Care improved their readiness scores from an average of 44% to 84%.

Readiness scores at all facilities improved between the first quarter of 2014 to the first quarter of 2015, as shown in the figure below.



CHALLENGES

Despite improvements, HP scores remain low due to lack of personnel, sanitation, and basic equipment, as well as supply chain challenges in maintaining supply of essential medicines and laboratory tests. Continued investment in health systems strengthening, as well as investment across sectors is needed to continue and sustain improvements.

Facility improvements have been realized mostly through donor-driven activities facilitated by HIP. These activities have raised the bar for facility and service standards, and HIP has built the capacity of MOH and facility personnel to maintain these standards. However, further donor investment will be necessary for continued improvement of service standards at more facilities.

NEXT STEPS

- Continue **developing capacity** of personnel in clinical skills as well as management skills.
- Include facility readiness supportive supervision activities in the MOH 2016 annual work planning workshops to support **sustainability** of efforts.
- Continue **community engagement** activities to encourage further investment in health service and facility improvement.
- Ensure that **facility readiness is integrated** within all supportive supervision visits by district managers.

CASE SUMMARY: Collaboration to Improve the Gleno Community Health Center in Ermera

Gleno Community Health Center is the largest referral center for Ermera's population of 117,000 people. In 2013, Gleno CHC was selected as one of five pilot facilities to receive renovations and service improvements through a collaboration between HIP, The U.S. Navy Civic Construction Action Detail (Seabees), and St. John of God Health Care.

An initial assessment of the CHC was conducted using the *Facility Readiness Format (FRF)*, a comprehensive checklist to assess facilities' capacity to deliver the basic package of services according to MOH standards (the FRF was developed by MOH with technical assistance from HIP in early 2013). The assessment revealed major infrastructure deficits, including lack of running water and electricity.

In response, the Seabees lay a gravel driveway leading to the maternity ward and installed running water. They also replaced non-functioning lights and fans and connected a generator to the outpatient and maternity wards. The HIP team and partner, St. John of God Health Care, oversaw trainings in basic hygiene, hand washing with soap, and basic life support skills.

HIP's effort to make substantial improvements to infrastructure at health facilities, including Gleno CHC, provided community leaders and other stakeholders with concrete examples of how such investments can support improved health outcomes. Bringing facilities up to national regulatory standards has motivated local stakeholders to both maintain existing improvements and seek investment for further improvements.

Before: Walls needed re-painting; several doors were damaged; the driveway to the maternity was inaccessible.



After: All walls were repainted by U.S. Navy Seabees, F-FDTL and Youth Center; gravel driveway leading to maternity ward.



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Annex 4: Technical Brief: Introducing and Scaling up Use of the Non-pneumatic Anti-Shock Garment (NASG) to Reduce Maternal Death from Postpartum Hemorrhage



USAID
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Timor-Leste Health Improvement Project:

Introducing and Scaling Up Use of the Non-pneumatic Anti-Shock Garment (NASG) to Reduce Maternal Death from Postpartum Hemorrhage

The United States Agency for International Development (USAID) supports the **Health Improvement Project, known locally as HADIAK**, as part of the overall United States Government package of assistance to Timor-Leste. HADIAK is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), district level (district health services—DHS), sub-district level (community health centers—CHCs), and community level (health posts—HPs and integrated community health services—SISCa) to benefit health workers and communities through mentoring and training. Implementation focuses on the districts of Ermera, Manatuto, and Oecusse.

INTRODUCTION

Postpartum hemorrhage (PPH) is the biggest contributor to maternal mortality worldwide, accounting for 30% of maternal deaths. In Timor-Leste the toll of PPH is even higher; according to Ministry of Health (MOH) routine Health Management Information System (HMIS) data, up to 50% of maternal deaths are caused by PPH. Approximately 15% of pregnant women will experience at least one of five major complications during childbirth and of those, 40% will experience PPH. Each year in Timor-Leste, an estimated 43,300 women become pregnant, meaning that roughly 2,900 will experience PPH.

In Timor-Leste, 78% of deliveries take place at home, and 70% of births occur without the attendance of a skilled provider. The majority of the country's population is rural (70%), and many (33%) live in remote, isolated areas without easy access to health facilities. Poor road infrastructure makes transport from home to the nearest health facility difficult and slow. Most sub district-level health facilities lack the capacity to provide life-saving blood transfusions. Because of these delays in recognizing PPH, reaching health facilities, and receiving treatment, many Timorese women die before receiving care.

The Non-pneumatic Anti-Shock Garment (NASG), a simple device that counteracts shock by applying direct counter pressure to the lower parts of the body, can be used to stabilize mothers with PPH until they are able to reach appropriate care. The garment can provide up to 48 hours of stability during delays. NASGs have been used in 16 countries and are part of World Health Organization's guiding recommendations for PPH management. A number of studies as well as a combined analysis of five studies conducted in 2006-2012 suggest that the NASG intervention is associated with decreased mortality from hypovolemic shock secondary to PPH and decreased blood loss in secondary and tertiary level health facilities.



The NASG is applied to a severely bleeding woman, who is then transported via ambulance to a hospital where she receives definitive care. The NASG slows excessive bleeding, preventing shock and stabilizing women with postpartum hemorrhage until they can be transported to appropriate care.

APPROACH

HIP supported the Ministry of Health (MOH) in introducing and scaling-up use of the NASG in two phases with the objective of strengthening existing MOH programs for safe and clean delivery and basic emergency obstetric care as well as reinforcing the referral system. Key activities included:

- Assisting in training and supportive supervision to increase the quality of delivery services in HIP municipalities/region including active management of the third stage of labor (AMTSL) for prevention of PPH.
- Increasing access to NASG in at least three municipalities/region and emergency obstetric care in referral sites.
- Increasing and improving the quality and use of data on PPH and NASG case reporting.
- Increasing knowledge at the household level about the warning signs of PPH and other childbirth complications to encourage individuals and families to seek urgent care.

KEY ACTIVITIES

During Phase I (October 2013-September 2014), NASG was piloted in Ermera and Manatuto municipalities at 14 health facilities - 9 health posts (HP) and 5 community health centers (CHCs) - and at the National Hospital Guido Valadares in Dili through implementation of the following activities:

- **Design and Procurement of NASG and PPH kits:** HIP designed a PPH kit, which includes a NASG, oxytocin (a uterotonic administered to PPH patients to reduce bleeding), and other commodities used to manage PPH. The medicines and other commodities for the kit were provided by the Pharmaceuticals and Health Equipment Service (*Serviço Autonomo de Medicamentos e Equipamentos de Saúde* or *SAMES*), a division within the MOH.
- **Development of Interactive Training Curriculum:** HIP worked with Timor-Leste's national in-service training institution (*Instituto Nacional de Saúde-INS*) to adapt the NASG training curriculum developed by researchers at the University of California, San Francisco (UCSF) to the Timorese context. The project produced training videos in Tetum (Timor-Leste's national and most commonly spoken language) using local actors and health providers. One video was developed to train health practitioners and ambulance nurses in the application and maintenance (cleaning, storage) of NASG and the second was developed to be shown in communities to raise awareness about birth preparedness and complication readiness with the use of NASG to save lives in the event of PPH.
- **Training and Supportive Supervision:** In March 2014, HIP conducted a two-day orientation for national facilitators (doctors and midwives) with 11 participants (including four MOH personnel). The project also conducted an orientation for the Emergency Department and Maternity Ward at the National Hospital Guido Valadares in Dili, which included 30 participants (6 doctors, 19 midwives, 5 nurses). The NASG training curriculum and materials approved by the INS were integrated with existing evidence-based clinical in-service training for health practitioners at the 15 pilot sites. Ambulance nurses at pilot facilities were also trained in the use of NASG. After each training session, the trainers use a competency checklist with each participant to ensure they acquired competency in applying and/or removing the NASG. This checklist remains with health personnel who are encouraged to assess



Still from the NASG training video produced by HIP using local actors speaking Tetum, the local language. The video includes instructions on applying, removing, cleaning, and storing the NASG.

each other on a monthly basis. On a quarterly basis, HIP supported district public health officers (DPHOs) to conduct supportive supervision for NASG along with the regular safe motherhood supportive supervision visits.

- **Data Collection for Improved Referral and Care:** In collaboration with UCSF, HIP developed a monitoring system to document all PPH and NASG use cases reported at HPs, CHCs, and hospitals. HIP staff work with the MOH to contact health facilities daily to collect case information. A *sending form* is used to track PPH and NASG cases reported at CHCs and HPs where a PPH case first appears and if needed, is referred for definitive care; a *receiving form* tracks PPH and NASG cases that were either referred from lower level facilities or came to the hospital directly. Staff record sending/receiving form data on tablets and submit data to an open data kit (ODK)—an online platform that helps ensure data quality and allows staff to easily view information. The ODK is evaluated on a weekly basis to monitor issues with NASG implementation and used to refine and improve programming.

- **Research:** HIP designed a study informed by the Diffusion of Innovations (DOI) theory to measure practitioners' acceptance of and experience using the NASG. HIP developed semi-structured guides for staff to conduct in-depth interviews with practitioners who received NASG training and who had experience applying NASG on a case.

Phase II of NASG implementation (October 2014–September 2015) scaled-up from the 15 pilot facilities to all CHCs and HPs conducting deliveries in the three HIP-supported municipalities/region, as well as all CHCs and HPs and the referral hospitals in the towns of Maliana (Bobonaro municipality), Suai (Covalima municipality), and Baucau (Baucau municipality); the referral hospital in Maubisse (Ainaro municipality); and select CHCs and HPs in Dili. In addition to scaling up Phase I activities to the new NASG sites, Phase II of NASG implementation included:

- **Implementing behavior change communication (BCC) activities:** HIP worked with health facilities, Suco and Aldeia Chiefs, and family health promoters (*Promotor Saúde Familiar – PSFs*) to enumerate pregnant women at the household level and encourage them to seek antenatal care (ANC) where the midwife or medical doctor will provide further information on PPH and other potential complications. PSFs will provide pregnant women with BCC materials and the phone numbers of the health facility staff and ambulance driver.

- **Training and Supportive Supervision:** Staff from 160 facilities were trained with the NASG curriculum during

Table 1. All PPH Cases (n=86)

Location of PPH Case		Hemorrhage Cause	
Dili	16% (14)	Uterine atony	21% (18)
Oecusse	29% (25)	Placenta previa	8% (7)
Ermera	30% (26)	Retained placenta	34% (29)
Manatuto	20% (17)	Lacerations	3% (3)
Suai	4% (3)	Ruptured uterus	8% (7)
Maliana	1% (1)	Abortion complications	19% (16)
		Abruptio	1% (1)
PPH Onset Location		Don't Know	6% (5)
At home	52% (45)		
At this facility	43% (37)	NASG Used	
At other facility	1% (1)	Yes	47% (40)
Other	4% (3)	No	53% (46)

Data collected through the sending and receiving facility forms is reviewed on a weekly basis to track and assess PPH cases and NASG usage.

Table 2. NASG Use Cases (n=40)

Location of NASG Case		Hemorrhage Cause	
Dili	15% (6)	Uterine atony	30% (12)
Oecusse	40% (16)	Placenta previa	2% (1)
Ermera	22% (9)	Retained placenta	35% (14)
Manatuto	13% (5)	Lacerations	2% (1)
Suai	8% (3)	Ruptured uterus	8% (3)
Maliana	2% (1)	Abortion complications	18% (7)
		Abruptio	-
PPH Onset Location		Don't Know	5% (2)
At home	40% (16)		
At this facility	55% (22)	Patient Outcome	
At other facility	2% (1)	Alive, no complications	93% (37)
Other	2% (1)	Alive, w/complications*	7% (3)

*Complications cited: anemia (2 cases); puerperal infection (1 case)

Phase II. Training was followed up with supportive supervision at all implementing facilities to ensure that trainees retained their skills and that NASG protocol is being followed. All 160 facilities with trained personnel received a PPH kit that included the NASG. Additionally, 17 PPH kits with NASG were distributed among ambulances in Manatuto, Ermera, Maliana, Suai, Baucau, and Dili.

- **Monitoring and Evaluation:** TL-HIP continued to monitor PPH cases and NASG use using the sending and receiving forms and ODK.

RESULTS

The introduction of the NASG in Timor-Leste has the potential to save the lives of a large number of the roughly 2,900 women who will experience PPH in Timor-Leste each year. This is not only due to use of the NASG itself, but also to increased availability of high-quality emergency services, hundreds of providers trained in improved delivery care, and improved community awareness of danger signs for PPH and other complications.

Through HIP's provision of technical assistance and collaboration with MOH and INS, a total of 1,054 health practitioners were trained in the NASG curriculum by the end of Phase II.

During NASG implementation, HIP recorded 86 PPH cases (14 in Dili, 17 in Manatuto, 25 in Oecusse, 26 in Ermera, 3 in Suai, and 1 in Maliana). NASG was applied in 40 cases (6 in Dili, 5 in Manatuto, 16 in Oecusse, 9 in Ermera, 3 in Suai, and 1 in Maliana). In every instance that NASG was applied, the patient survived.

CHALLENGES

Low awareness of PPH warning signs at the household level increases the delay in seeking emergency obstetric care. Awareness-raising at the community level among everyone involved in the birth process (traditional and skilled birth attendants, relatives, and neighbors) is needed.

Safe removal of NASG from PPH patients requires practitioners to remove panels and check patients' vital signs in fifteen minute increments—a process that can take up to two hours. Further training for health providers is required to emphasize the importance of safe, incremental removal of NASG.

CASE SUMMARIES:

NASG Saves Mothers' Lives

A woman in Manatuto District gave birth at home and started hemorrhaging shortly thereafter. She was driven to the Salau Health Post, one of the 15 HIP-supported NASG pilot sites. By the time the patient reached the health post, she was bleeding so severely that health workers had no hope for her survival. However, they applied the NASG according to their training, and within five minutes, the patient appeared to stabilize. The health workers checked the patient's vital signs and found them to be normal. The patient was transported to the hospital in Dili, where the NASG was removed and she was treated and eventually released.

The first PPH case that arrived at Natarbora Community Health Center after health workers there were trained in NASG was severe; the patient was unconscious and near death. The health workers were apprehensive about applying the new intervention for the first time, but reviewed the instructions in the PPH kit, recalled their training, and applied the NASG to the patient. Shortly thereafter the patient regained consciousness, her vital signs stabilized, and she was transported to the hospital where she was successfully treated.

A woman who delivered at Oecusse Referral Hospital began hemorrhaging in the hospital's observation room where she had been transferred shortly after giving birth. The hospital staff, who had received NASG training, quickly responded to the emergency by applying the garment, which effectively slowed the patient's bleeding and allowed health workers to safely transfer the patient to emergency care.

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**Annex 5: Summary Report: The Non-Pneumatic Anti-Shock Garment
(NASG): Saving Mother's Lives through Innovation in Timor-Leste**



THE NON-PNEUMATIC ANTI-SHOCK GARMENT (NASG):

Saving Mother's Lives Through Innovation in Timor-Leste

Health Improvement Project (HIP)

Timor-Leste

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November 2015

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<i>Introduction</i>	<i>Background</i>	<i>Intervention</i>	<i>Results</i>	<i>Summary</i>

INTRODUCTION

Maternal mortality worldwide remains unacceptably high, with approximately 800 women dying every day from largely preventable causes related to pregnancy and childbirth.¹

The well-being of the mother is an important predictor of the health of her children and family. Investing in women's health - including ensuring women have safe and healthy pregnancies, deliveries, and post-partum periods - contribute not only to improved household health outcomes but also advance social and political development for the country.²

Timor-Leste suffers from one of the highest maternal mortality rates in the region. Despite progress made in the recent decade, the country still suffers from limited resources and infrastructure to support basic health services.

In order to address high maternal death rates, the **Maternal Child Health (MCH) Department** at the **Ministry of Health (MOH)** in Timor-Leste initiated several interventions to improve health outcomes at delivery.

As part of initiatives to prevent and manage post-partum hemorrhage (PPH), the MOH recently introduced the **Non-Pneumatic Anti Shock Garment (NASG)**, a breakthrough innovation designed to slow bleeding and surmount delays in reaching and receiving care .

This intervention is being implemented with technical assistance from the **Health Improvement Project (HIP)**, managed by **John Snow, Inc. (JSI)** in collaboration with the MOH.

The following document outlines the context, intervention approach, and results of efforts to address delays associated with obstetric hemorrhage in order to contribute to improved maternal health outcomes in Timor-Leste.



A background image showing a woman lying in a hospital bed, receiving a blood transfusion. A medical professional is partially visible on the right side of the frame. The image is faded to serve as a background for the text.

MARTINHA'S STORY

Twenty-six year old Martinha* had a normal delivery for her fourth child at CHC Comoro. But two hours after her delivery, she started to bleed severely due to a uterine atony and began going into shock.

The midwife applied NASG immediately due to the large amount of blood loss and transferred Martinha to Hospital Nacional Guido Valadares (HNGV - National Hospital Guido Valadares) in Dili.

“ Before the midwife applied NASG I felt limp and weak. After the NASG was applied I felt better and stronger in just a few minutes, even before we left for the hospital. ”

- Martinha

Martinha received a blood transfusion at HGNV and began feeling better with no further complications.

**Patient's name was changed to protect her identity.*

Background

Maternal Mortality Globally (pg. 6)

Maternal Health in Timor-Leste (pg. 7)

Addressing Obstetric Hemorrhage (pg. 8)

Evidence of NASG Effectiveness (pg. 9)

How NASG Works (pg. 10)

Maternal Mortality Globally

Despite global progress in reducing maternal mortality in the past two decades, the majority of countries will not meet Millennium Development Goal Five (MDG5) by 2015.³

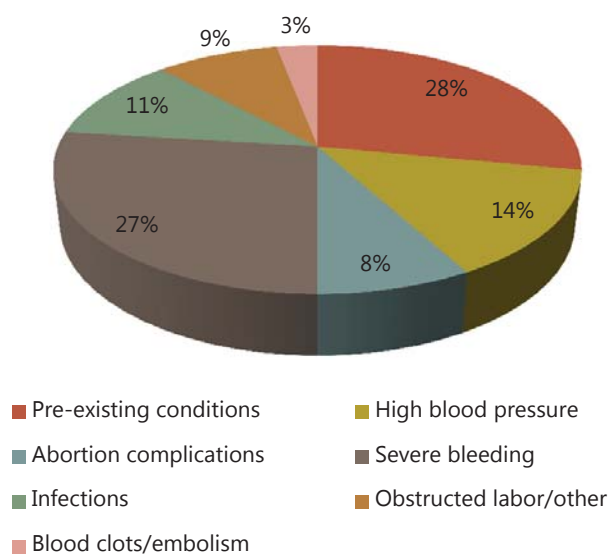
A disproportionate percentage of maternal deaths worldwide occur in developing countries. In these largely resource-limited settings, health facilities are not equipped with the necessary supplies or skilled personnel to effectively handle obstetric emergencies.

Post-partum hemorrhage (PPH) is one of the leading causes of maternal mortality and morbidity, accounting for approximately 27% of global maternal deaths.

This is exacerbated by other factors that prevent women and their families from seeking and receiving care such as the distance to health facilities, a lack of information about danger signs, a lack of transportation, poverty, cultural practices, and inadequate services.

The majority of maternal deaths are preventable. In addition to ensuring access to appropriate antenatal care during pregnancy, it is also critical to minimize or remove barriers to reaching and accessing skilled care, particularly in the event of an obstetric emergency.

Worldwide causes of maternal deaths⁴



Maternal Health in Timor-Leste

At 557 deaths per 100,000 live births, Timor-Leste has one of the highest maternal mortality ratios (MMR) in the region.⁵



Only 30% of births in Timor-Leste are delivered by a skilled provider, with 78% of deliveries occurring outside a health facility.⁶ These practices of non-skilled attendance and home deliveries are significant contributors to a high MMR in the country.

Additionally, over 70% of the population lives in rural areas where access to health care is hindered by an inadequate transportation infrastructure and extremely poor road conditions in the largely mountainous terrain. During the rainy season, many roads and bridges are impassable making transportation to certain remote areas almost impossible.

Routine MOH Health Management Information System (HMIS) data reports that 40% of maternal deaths in Timor-Leste are due to PPH, though it could be as high as 50.2%.⁷

Further, Timor-Leste has only a limited number of hospitals capable of providing Comprehensive Emergency Obstetric Care (CEmOC) required to address obstetric hemorrhage.

These combined factors place women in Timor-Leste at increased risk of dying from obstetric hemorrhage.

Addressing Obstetric Hemorrhage

Post-partum hemorrhage (PPH) is defined as blood loss of 500 mL or more within 24 hours after birth. Effective treatment of PPH requires properly trained and skilled personnel as well as facilities equipped with appropriate supplies and medicines.

Even in situations where proper care and equipment is available, many women and their families experience delays in reaching or receiving services.

The Non-Pneumatic Anti-Shock Garment (NASG) is a low-technology, basic first aid pressure device that can assist in the treatment of PPH through stabilizing severely bleeding women to survive transport and allow health care providers time to apply definitive treatment.

The World Health Organization (WHO) has recommended using NASG to help reduce maternal deaths in settings where definitive care is not immediately available⁸ and is included in WHO's *Breakthrough Innovations that Can Save Women and Children Now*.⁹



NASG buys time. The estimated time to death from the start of a bleeding complication is often very short - sometimes only 2 hours. Delays in identifying hemorrhage, reaching care, and receiving care can exacerbate dangers due to bleeding. The NASG slows bleeding and counteracts shock, thus “buying time” until definitive care is received.



NASG is cost-effective. Cost-effectiveness information available from Egypt and Nigeria illustrate that for women with severe hypovolemic shock, use of the NASG resulted in improved Disability-Adjusted Life Year (DALYs) averted with net savings or low cost per DALY averted.¹⁰ Other evidence from Zambia and Zimbabwe indicate that early NASG application for women in hypovolemic shock is cost-effective across many clinical settings.¹¹

Evidence of NASG Effectiveness

Key advantages to NASG for women and providers include:

It is easily and quickly applied, taking only about 2 minutes.

1

Most patients with severe shock regain consciousness and vital signs begin to stabilize with 2-5 minutes of application.

2

Minimal training is required to learn how to apply and remove NASG.

3

Timor-Leste joins a growing list of countries – such as India, Egypt, Nigeria, Zambia, and Zimbabwe - that have implemented NASG as part of a clinical tool for managing obstetric hemorrhage in resource-limited settings.

There is a growing body of evidence on the effectiveness of NASG in reducing adverse hemorrhage outcomes.

A cluster randomized trial in Zambia and Zimbabwe demonstrated a 54% reduction in extreme adverse outcomes and a significantly faster shock recovery time due to NASG application.¹²

A study from Egypt and Nigeria found NASG reduced the impact of delays in

receiving definitive therapies after arrival at a tertiary care hospital.¹³

Further evidence from an intervention in Egypt also indicated that use of NASG significantly reduced blood loss and recovery time from shock.¹⁴

Although further research is still needed, these examples provide compelling evidence that NASG is a valuable innovation to help reduce maternal deaths, particularly in low-resource settings.

How NASG Works

As blood accumulates in the lower part of the body (in cases of decompensatory shock), leaves the body through the vagina, or pools in the retroperitoneal area (in cases of obstetric hemorrhage), the heart, lungs, and brain are deprived of oxygen. The garment can counter that effect.



→ Central circulation is expanded, reversing shock.

→ Circumferential compression of the abdomen and legs reduces the volume of blood in the compressed areas.

→ Decreases further blood loss.

Made of neoprene and Velcro™, this lower body garment provides up to 48 hours of stability during delays.

JOANA'S STORY

After delivering a baby boy at Oecusse Referral Hospital, Joana* – an otherwise healthy 19-year old woman – began to bleed profusely after the uterus failed to contract.

While waiting for the obstetrician to arrive, the midwife began uterine massage. However, Joana still lost a significant amount of blood.

“When I woke up, I was dressed with this garment. I felt safer, I knew I was going to survive.” - Joana

Once the NASG was applied, Joana began to stabilize and gained consciousness. The NASG bought the necessary time to treat Joana's condition.

**Patient's name was changed to protect her identity.*



Intervention

Overview of the Intervention (pg. 13)

Intervention Phase One (pg. 14)

Contents of PPH Kits (pg. 15)

Intervention Phase Two (pg. 16)

Intervention Locations (pg. 17)

Expansion in Phase Two (pg. 18)

Training (pg. 19)

Monitoring System (pg. 20)

Defining Causes of Hemorrhage (pg. 21)

Overview of the Intervention

Three key elements were employed for the NASG intervention. These included:



Training

Training was provided to health facility staff and ambulance personnel as well as other facility and MOH support and management staff in NASG device application, removal, and garment care. A total of 1,054 health facility, ambulance, and related staff were trained. Trainings were led by MOH staff, with technical assistance provided by HIP.



PPH Kit Distribution

HIP provided technical assistance to the MOH in the design of 258 post-partum hemorrhage (PPH) kits distributed to 158 health facilities and ambulances in the intervention area. The kits included the garment as well as materials and medicines - provided by the Medicine and Health Equipment Autonomous Service (SAMÉS) - required to stabilize a woman suffering from PPH.

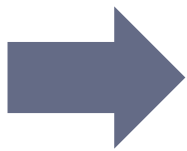


Monitoring for Decision Making

Ongoing data was captured in the 86 PPH cases presenting at facilities, including specific information on the 40 cases of NASG use. Data was continuously used for decision making and improvements throughout the intervention.

Intervention Phase One

The NASG intervention was implemented in two key phases.



*HIP provided technical assistance to the MOH in the production of an **interactive training video and curriculum**, all in **Tetum**.*

*This is the **first** of this kind of interactive training video developed in the Timor-Leste context.*

Other materials developed included: facilitator's manual, participant's guide, job aids, Standard Operating Procedures (SOPs), simulation exercises, and competency checklists.

All materials complied with MOH standards and protocols. The full training package was approved by the National Training Institute (INS).

The MOH and HIP collaborated with the University of California at San Francisco (UCSF) in the adaptation of the UCSF NASG training module to the Timorese context.

Phase One focused on select facilities in project target municipalities. Fourteen health posts and community health centers were selected in Ermera and Manatuto municipalities in addition to the National Hospital Guido Valadares in Dili.

15

Number of facilities covered in Phase One

144

Number of health personnel trained in Phase One

Phase One also trained personnel at all of the 15 pilot facilities following a Training of Trainers (TOT) workshop held at National Hospital Guido Valadares in Dili.

Contents of PPH Kits

1 NASG

PPH kits included 1 garment and supplies to manage obstetric hemorrhage.



PPH Kits were distributed to all targeted facilities with personnel trained in NASG



Application Reference Instructions

1 pair sterile latex surgical gloves

2 IV Catheter/Cannula

2 disposable infusion set

Oxytocin 10 IU

sterile gauze

1 plaster tape

2 alcohol swabs

1 disposable syringe with IV needle



The garment is washable and reusable up to 60 times



Kit materials and medicines were provided by SAMES – Serviço Autônomo de Medicamentos e Equipamentos de Saúde



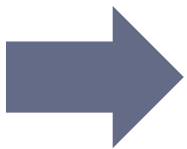
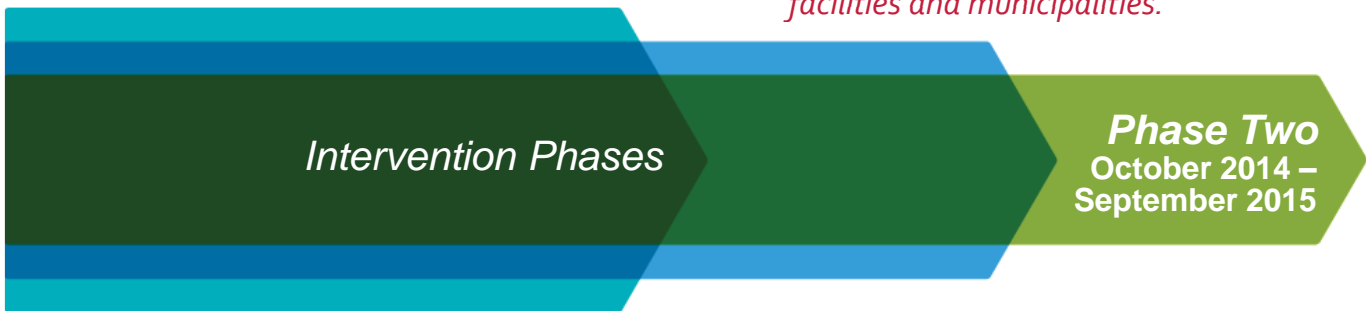
4 liters normal saline or ringer's lactate

258 PPH

Kits with NASG were distributed

Intervention Phase Two

*The second phase received additional funding from USAID's **Development Innovations Ventures (DIV)** to scale-up interventions to other facilities and municipalities.*



Referral Hospitals

Oecusse (Oecusse region)
Maliana (Bobonaro municipality)
Suai (Covalima municipality)
Maubisse (Ainaro municipality)
Baucau (Baucau municipality)

The National Hospital in Dili and the four Referral Hospitals are the only tertiary level facilities where Comprehensive Emergency Obstetric Care (CEmOC) is provided in the country.

In Phase Two, the intervention was scaled up to all Community Health Centers (CHCs) and Health Posts (HPs) conducting deliveries in the Ermera and Manatuto municipalities and in Oecusse region as well as the five referral hospitals in Timor-Leste.

143

Number of facilities covered in Phase Two

910

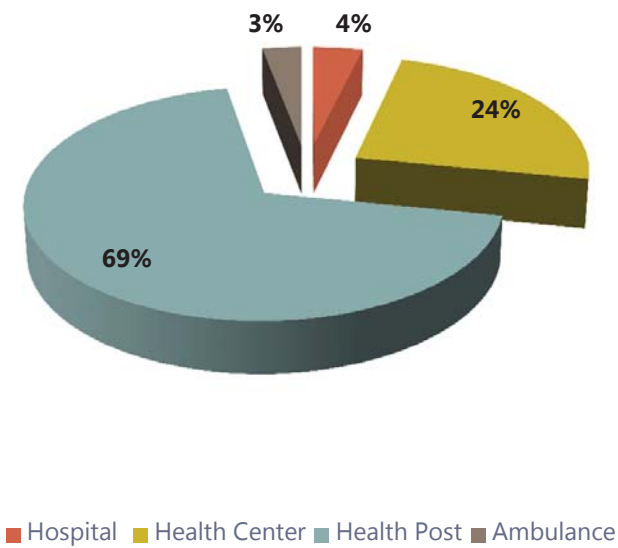
Health personnel trained in Phase Two

Personnel were trained in the remaining facilities in the project target municipalities/region of Ermera, Manatuto, and Oecusse; in the 4 Referral Hospitals in Maliana, Suai, Maubisse, and Baucau municipalities; and in HPs and CHCs in Maliana, Baucau, and Suai.

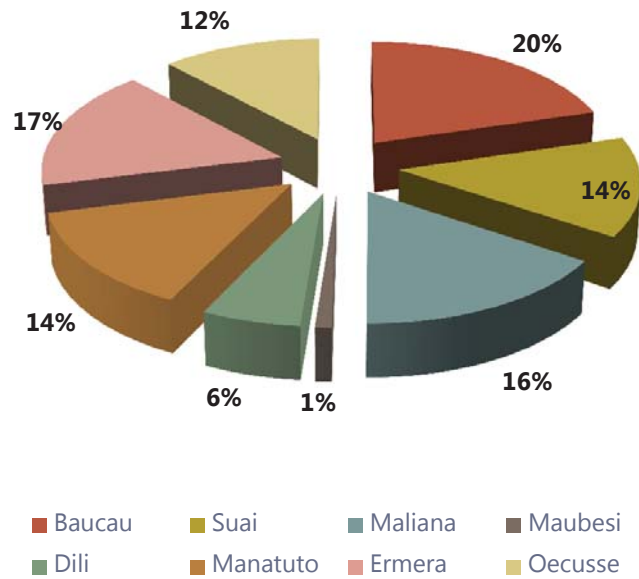
Intervention Locations

The intervention was conducted in a total of 160 locations.

Distribution of Intervention by Facility Types



Distribution of Intervention by Municipality/Region



Expansion in Phase Two

Complementary components were added in Phase Two to enhance intervention effectiveness.



Community Monitoring and Tracking Tools for Safe Motherhood and Childhood Immunization developed.

The tool promotes: (1) at least 4 ANC visits starting in the first trimester; (2) awareness of key danger signs during pregnancy, delivery, and after birth and how to respond; (3) to plan for delivery with a skilled attendant; (4) to attend a minimum of 2 PNC visits; (5) to vaccinate children within first year.

Aims to reduce first and second delays in seeking and reaching care.

Transport and Referral System designed.

The system supports a better approach to referrals by advising midwives and doctors of the quickest and most effective way to reach a woman experiencing obstetric complications whose family has contacted the facility.

A list of phone numbers for health facility managers, doctors, midwives, ambulance nurses, ambulance drivers, and other multifunction vehicle drivers is displayed at each health facility and in the community.

Aims to further overcome the second delay in reaching care.

NASG-Specific Supportive Supervision.

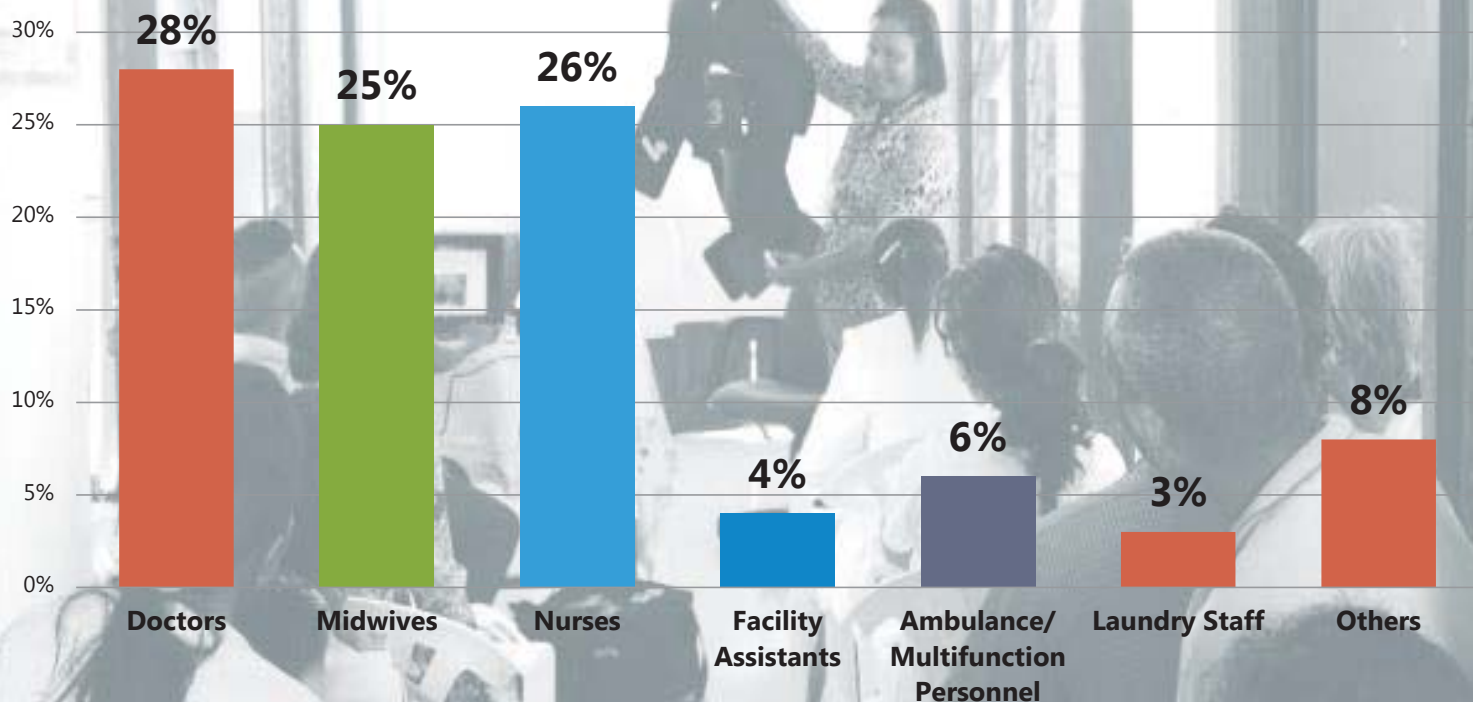
Supervision includes: (1) review of the latest PPH cases and their management; (2) review of trained human resources and status of competency checks; (3) verifying the completeness of PPH kits in stock; and (4) check on personnel's competency on NASG application.

Aims to reduce the third delay to ensure a woman receives timely care.

Training

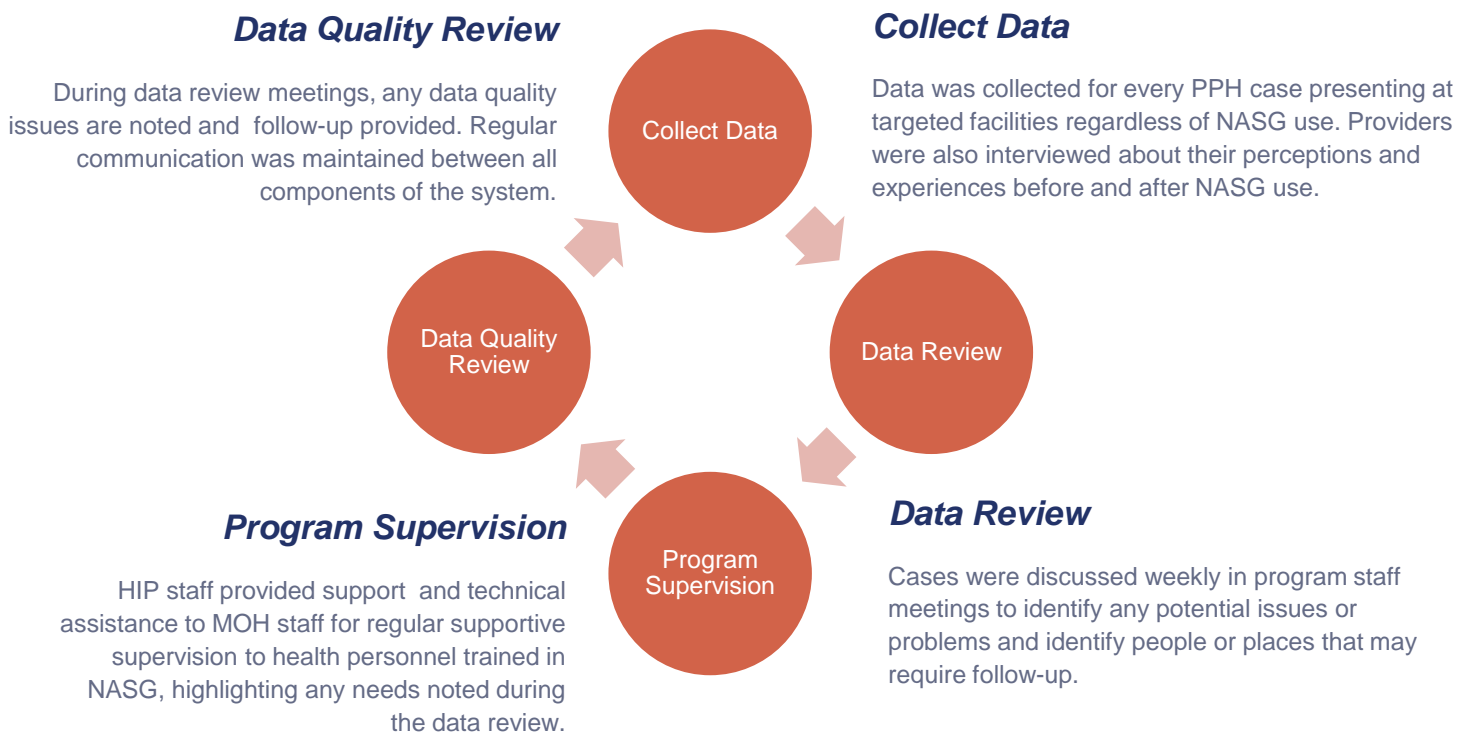
A total of 1,054 health personnel were trained. This included key health staff such as doctors, midwives, and nurses as well as ambulance staff, laundry staff responsible for cleaning the garments, and other support and management staff.

Types of Personnel Trained



Monitoring System

*The NASG monitoring system used **case documentation** to collect information on each PPH case presenting at facilities in the catchment area through an ongoing process of data collection, analysis, and use, with each component feeding into the next in the cycle.*



Defining Causes of Hemorrhage

The definitions and terminology for hemorrhage causes and any potential modifications within the Timor-Leste context is also useful to reference.

<i>Hemorrhage Cause</i>	<i>Definition</i>
Abruption	The separation of the placenta from the wall of the uterus,.
Abortion complications	Bleeding as a result from miscarriage (generally spontaneous abortion). It should be noted that although there is no law in Timor-Leste that specifically prohibits abortion, facilities are explicitly forbidden to perform abortions.
Ruptured uterus	Where the integrity of the myometrial wall is breached. In severe cases with a complete rupture, the contents of the uterus may spill into the peritoneal cavity.
Lacerations	Lacerations of the vaginal opening often occurs when the baby descends quickly, tearing the tissues. More serious lacerations involve the deeper tissues and require surgery.
Retained placenta	A placenta that has not undergone placental expulsion within 30 minutes of the baby's birth. In these cases the third stage of labor needs to be managed actively, otherwise risking hemorrhage and infection.
Placenta previa	Where the placenta whole or partially blocks the neck of the uterus interfering with the normal delivery of the baby.
Uterine atony	The loss of tone in the uterine musculature. A lack of uterine muscle contraction can cause acute hemorrhage as there is no uterine muscle compressing the vessels and reducing blood flow. Therefore the likelihood of coagulation decreases.

JACINTA'S STORY

After delivering a healthy baby at CHC Gleno, a retained placenta caused 25-year-old Jacinta* to bleed, quickly losing a significant amount of blood

Although the midwife and doctor attending the delivery immediately began uterine massage, the bleeding became too severe and Jacinta began going into shock. They applied NASG and transferred her to the National Hospital in Dili.

“After I delivered my baby I started to bleed very heavily. But after they put the garment on I began to feel the bleeding slow down and I started to feel better.”

- Jacinta

Shortly after the NASG was applied, Jacinta began to stabilize. After she arrived in Dili, Jacinta received a blood transfusion. In a few days she was home with her newborn baby and no further complications.



**Patient's name was changed to protect her identity.*

Results

Case Documentation Description (pg. 24)

Cases (pg. 25)

Location of PPH & NASG Use Cases (pg. 26)

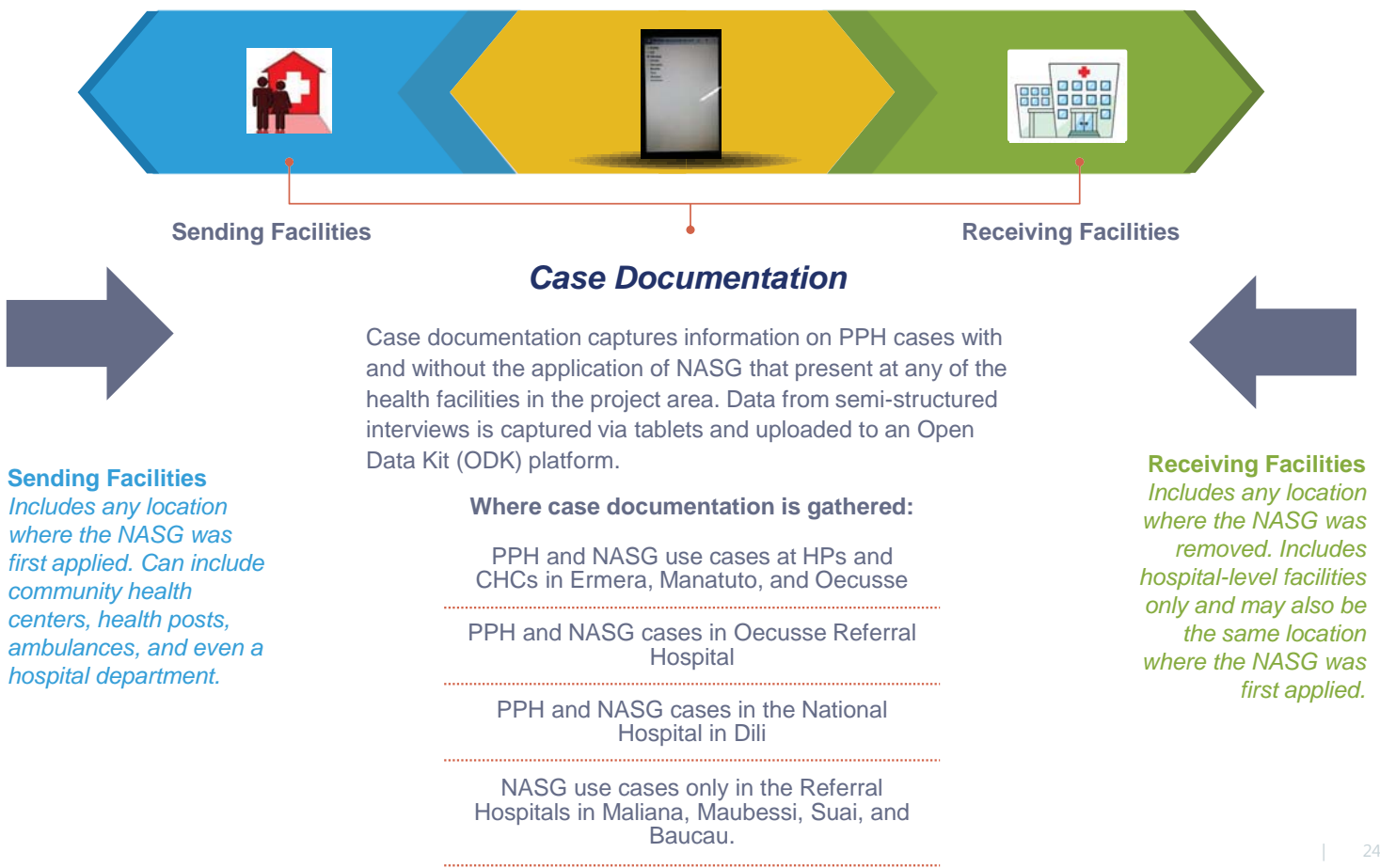
Characteristics of Women (pg. 27)

Description of Delivery Characteristics (pg. 28)

Description of PPH & NASG Cases (pg. 29)

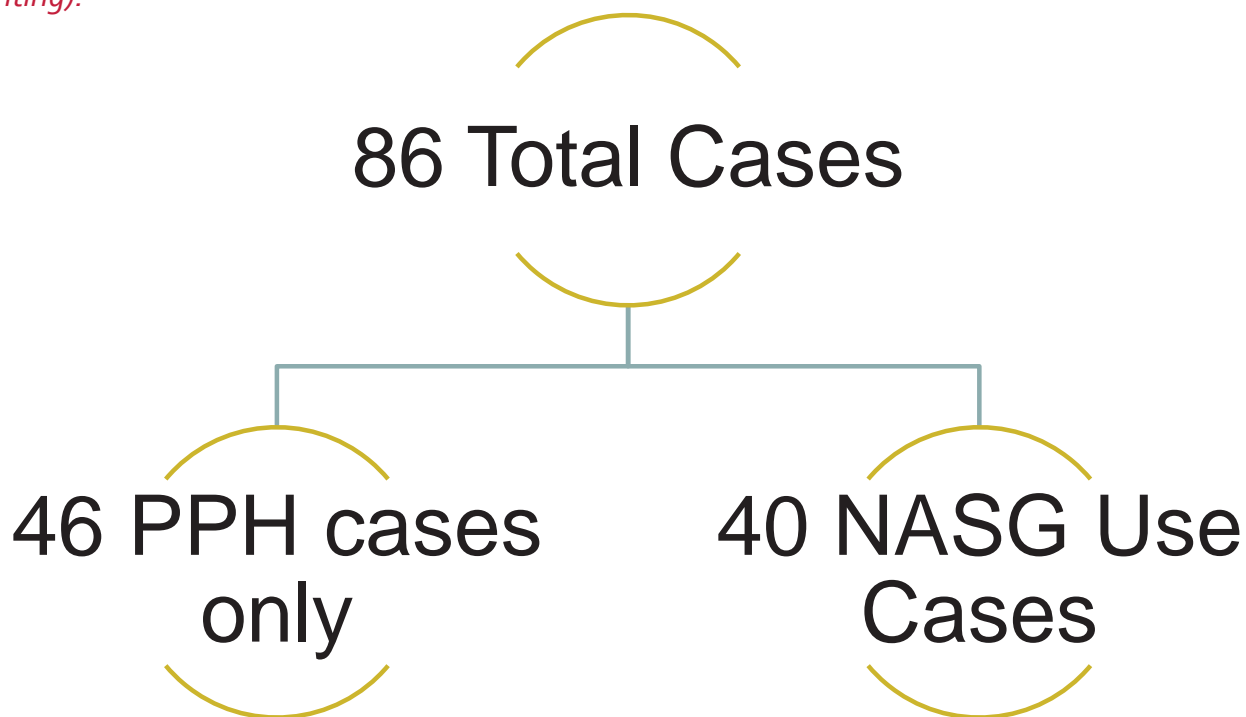
Outcomes of NASG Cases (pg. 31)

Case Documentation Description



Cases

Data for case documentation were collected from **November 2014 to September 2015**. There were a total of **86 PPH cases** presenting at facilities. Among those, 40 cases required NASG (or **47%** of the cases presenting).

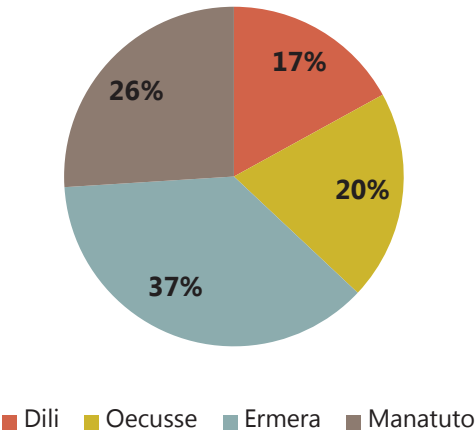


Location of PPH and NASG Use Cases

A total of 86 PPH cases presented at facilities during the implementation period. In 40 of those cases NASG was applied and then transferred for definitive treatment. In 46 of those cases the PPH was treated at the presenting facility or transferred to be treated at a tertiary level facility. In order to provide a level of comparison, results will be presented for the PPH cases not treated with NASG (n=46) and the PPH cases treated with NASG (n=40).

46 Number of PPH cases presenting at target facilities from November 2014 – September 2015.

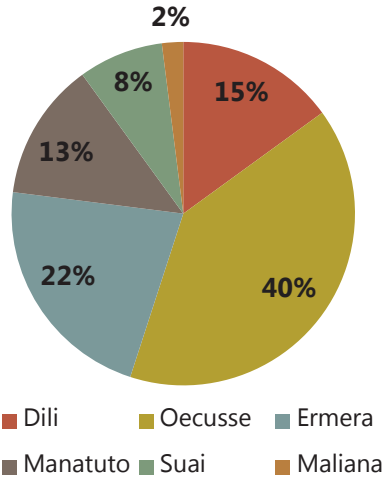
Location of PPH Cases



Number of cases where NASG was applied at target facilities from November 2014 – September 2015.

40

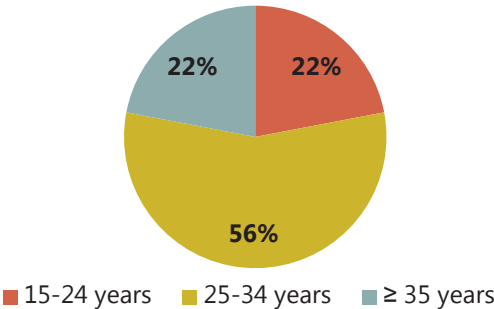
Location of NASG Cases



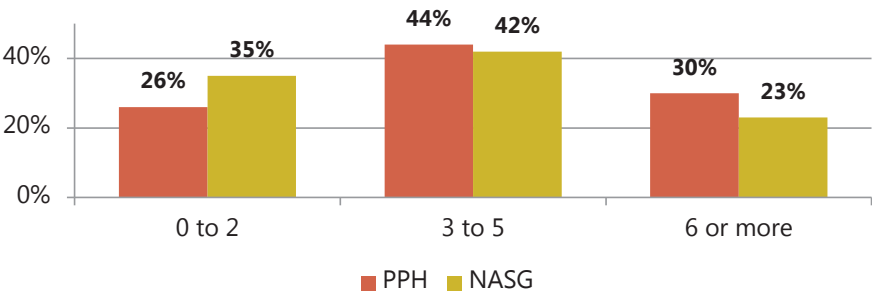
Characteristics of Women

NASG was applied to a larger proportion of younger women; the majority of both PPH and NASG women has 3-5 previous pregnancies, but a higher proportion of PPH-only women had 3 to 5 previous births.

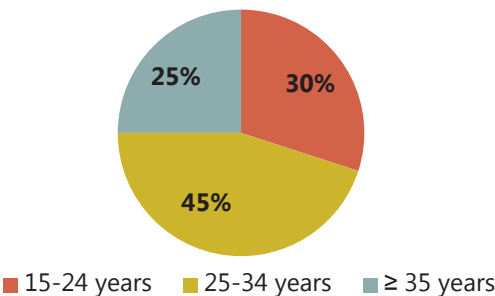
Age among PPH cases (n=46)



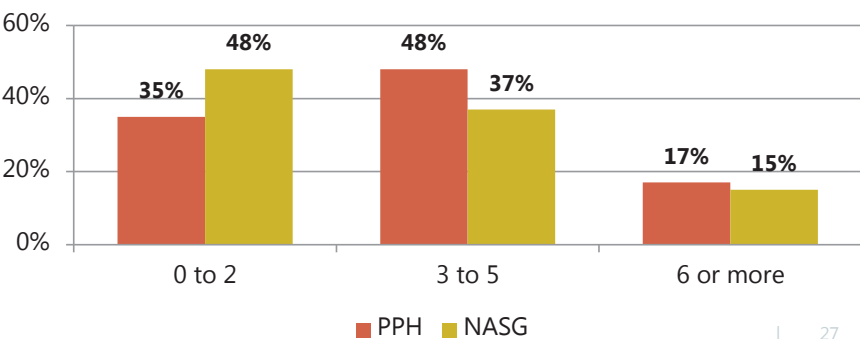
Previous pregnancies among PPH & NASG cases



Age among NASG cases (n=40)



Previous births among PPH & NASG cases

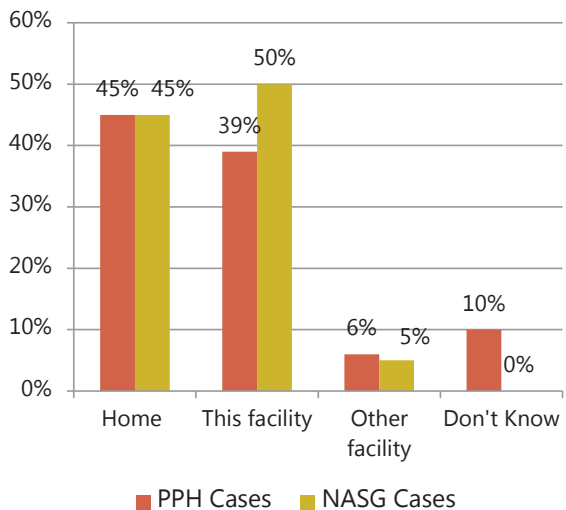


Description of Delivery Characteristics

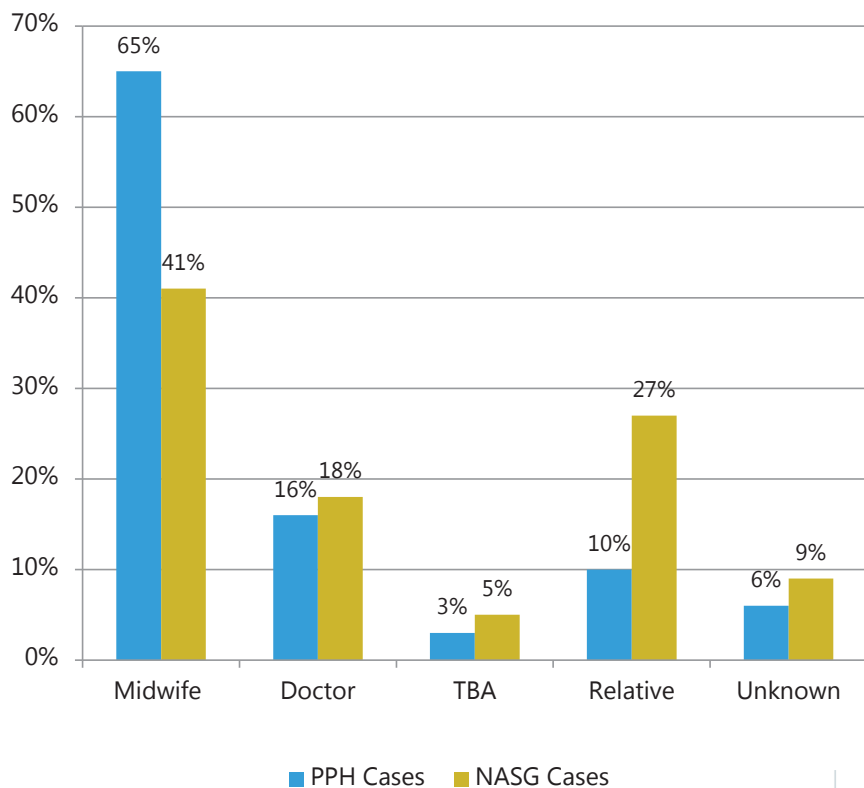
67% 31 of 46 women with PPH delivered

55% 22 of 40 women where NASG was used delivered

Delivery Location



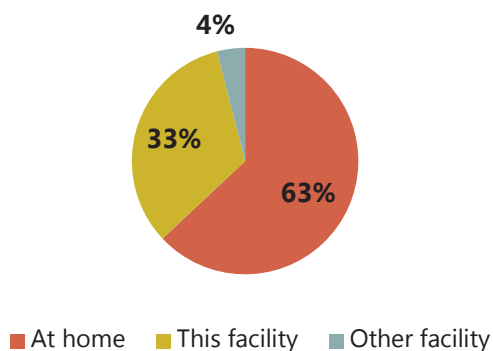
While similar proportions of women delivered at home, a higher proportion of women where NASG was used delivered at a facility. However, two times as many deliveries were conducted by a relative in PPH cases where NASG had to be used.



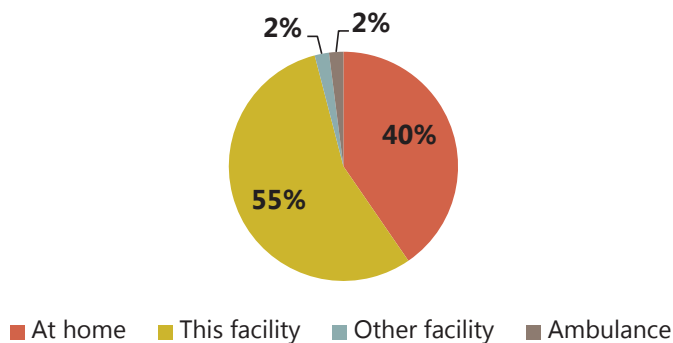
Description of PPH & NASG Cases

For the majority of PPH cases, hemorrhage started at home (63%) before going to the facility. For the majority of cases where NASG was used, the bleeding began at the health facility (55%). In 90% of the NASG cases the woman had a blood loss of 500 mL or more.

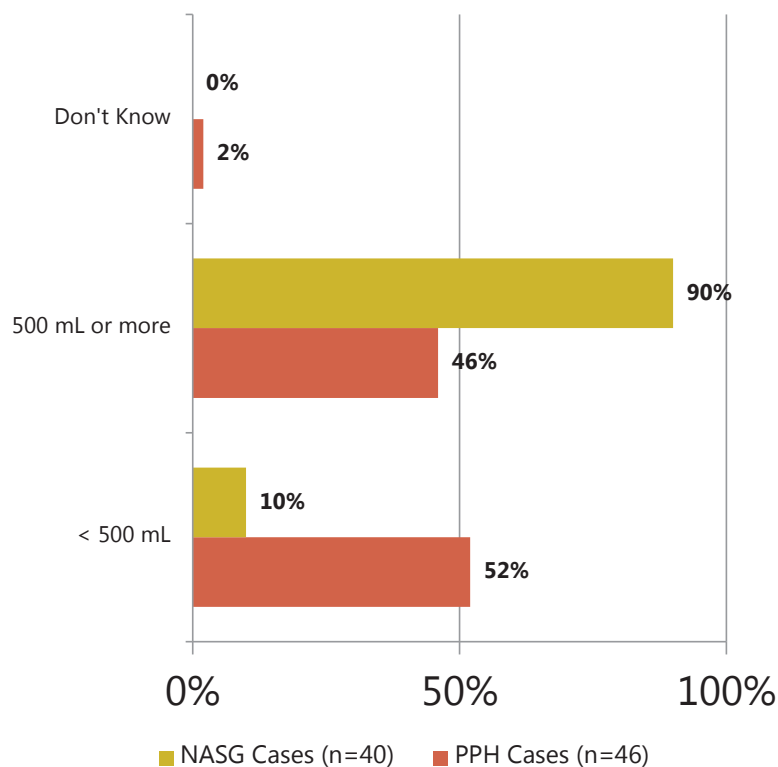
PPH Onset Location for PPH Cases (n=46)



PPH Onset Location for NASG Use Cases (n=40)

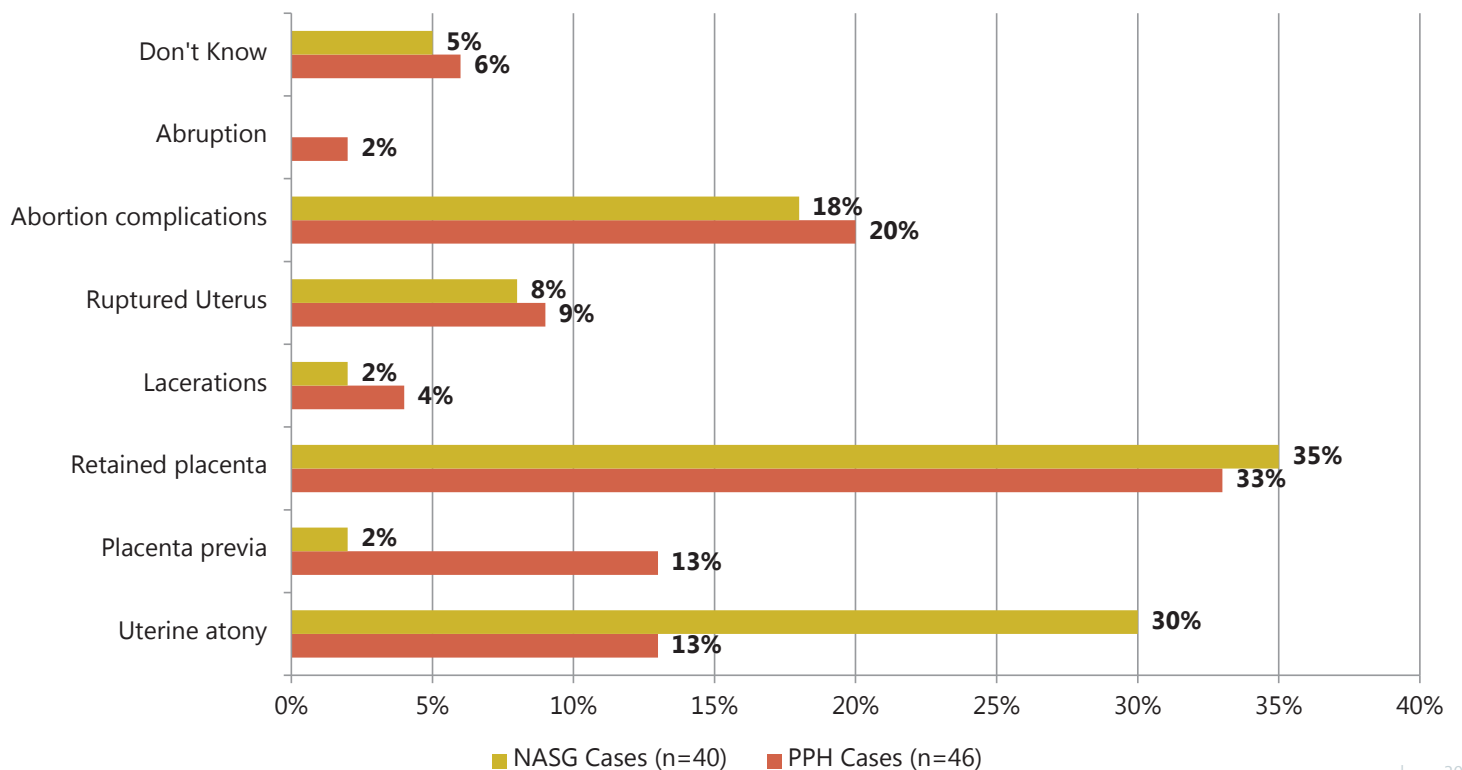


PPH Onset Location for All Cases



Description of PPH & NASG Cases

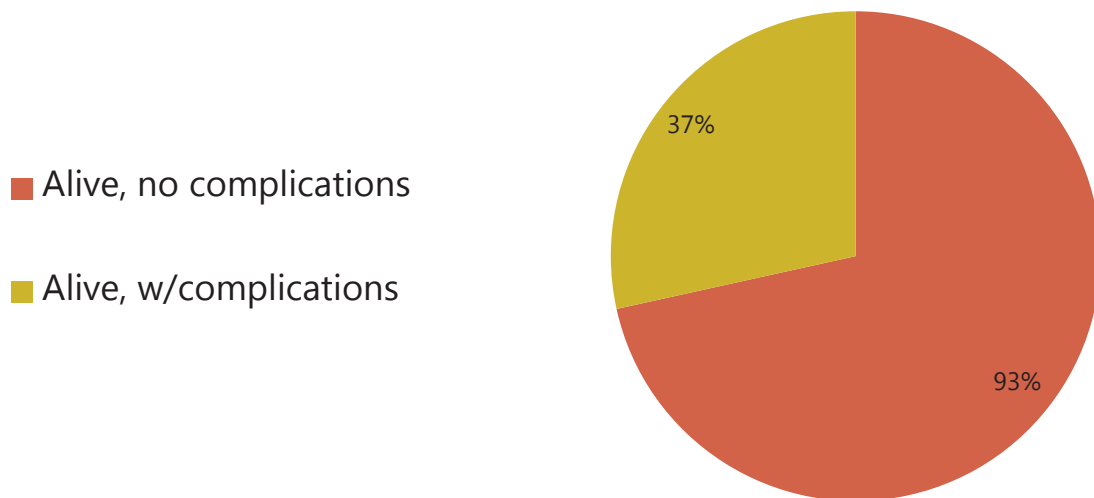
For the majority of both PPH-only and NASG use cases, the primary cause of hemorrhage was retained placenta at 33% and 35%, respectively. The next leading cause differed - abortion complications for PPH only cases (20%) and uterine atony (30%) for NASG use cases.



Outcomes of NASG Cases

In all cases where NASG was used, the woman survived. Complications cited by providers were not a result of NASG use but rather general conditions the woman had upon discharge, which were treated.

NASG Case Outcomes (n=40)



**Complications included anemia (2 cases) and puerperal infection (1 case)*



LUISANA'S STORY

While Luisana* was at home she suffered a miscarriage with her first pregnancy. She began to bleed heavily so her family brought her to the nearest facility, Health Post Salau.

Soon after arrival, Luisana began going into shock. The midwife applied the NASG and called the multifunction vehicle to transport her to the National Hospital in Dili. There she received a blood transfusion and soon stabilized.

While NASG buys life-saving time for women, it also provides a life-saving skill to health personnel.

“Before NASG, when I transported a woman with bleeding I felt very nervous that she would not survive the trip. Now with NASG training, I don’t feel nervous. I have confidence that the woman will arrive safely.” – Ambulance driver

**Patient’s name was changed to protect her identity.*

Summary

NASG: An Effective Tool (pg. 34)

Lessons Learned (pg. 35)

Conclusion: The Road Forward (pg. 38)

NASG: An Effective Tool

Initial experiences implementing and scaling-up NASG in Timor-Leste have provided positive and promising results. The Ministry of Health (MOH) – as well as many Timorese providers who have experienced first-hand the benefits of having the NASG available for cases of severe obstetric bleeding – have expressed interest in scaling-up NASG nationally so that **all** facilities have the capacity and means with which to offer this life-saving treatment option to women experiencing post-partum hemorrhage.

While there are some known risk factors for PPH such as prolonged third stage of labor, multiple deliveries, age over 35 years, instrumental deliveries, and a history of postpartum hemorrhage^{15,16} for example, for the majority of women PPH cannot be predicted. Providers need to act quickly using proven techniques in order to manage the bleeding and help the woman recover. Providers in low resource settings are particularly challenged in providing the care that is needed. But the availability of NASG has proven a life-saving tool for PPH cases in Timor-Leste.

Evidence to date shows NASG to be an effective tool in stabilizing hemorrhaging women during delays in reaching care.

Recommended by the World Health Organization (WHO), it is increasingly being recognized and included as a component of comprehensive programs to manage obstetric hemorrhage in a growing number of countries. NASG has proven essential in resource-limited countries particularly challenged by delays in reaching definitive care.



Lessons Learned

Monitoring cases of PPH and NASG to date in Timor-Leste have provided some lessons learned that may be useful to consider for future scale-up of the NASG program or for programs considering implementation of a similar program.

- **Identifying advocates or “champions” can help encourage provider use of NASG in appropriate cases.** Providers are key gatekeepers to the use of a new technology. If they are unsure about an innovation or not convinced of its utility, the innovation may often see minimal to no use. However, once convinced of its advantages, providers can serve as key advocates which can not only increase use but can also encourage other changes that may be needed such as supportive policies or demand generation to keep costs low. Identifying those with positive experiences - such as early adopters at Oecusse Referral Hospital where 40% of NASG-use cases occurred - can cultivate provider support which is important when considering program improvements and scale-up.
- **Encourage ANC visits and integration of birth preparedness planning during these visits.** For the 50% of women that delivered in a health facility and developed obstetric hemorrhage where NASG was used, the life-saving device was immediately available as a treatment option. However, 45% of women that delivered at home where NASG was eventually used likely encountered delays in reaching a facility before NASG could even be applied. Further, relatives or TBAs are often not as skilled in recognizing danger signs requiring medical attention. Facility-based deliveries with skilled birth attendants help ensure women have access to the best life-saving options available to them and as quickly as possible.

Lessons Learned



- **ANC visits help ensure that any pre-existing conditions or other risk factors for post-partum hemorrhage (PPH) may be able to be identified and treated to minimize the risk.** A small proportion of women where NASG was used were noted as having severe anemia, which was most likely a pre-existing condition. Although the women were treated with iron supplements upon discharge, it is also important to continue to encourage ANC visits to help providers identify and treat any pre-existing conditions – such as maternal anemia - that may put the woman at additional risk.
- **Support effective blood donation systems.** While NASG is a tool that can effectively slow bleeding, it is not a treatment for hemorrhage. Therefore it is important to ensure that countries have well-functioning blood donation systems where tested blood is readily available when needed for a woman's full recovery.

Lessons Learned

- **Identify means with which to promote NASG at the community.** While providers and facility-based improvements represent the “supply” side of providing quality services, equally important is the acceptance of and demand for the innovation from the “demand” side – i.e. the community. Families may be afraid to allow the use of NASG due to their lack of understanding about the device or awareness of the life-saving benefits. Ensuring community members are appropriately informed – before or early in the pregnancy - is important in ensuring NASG is permitted to be used to maximize the benefits of the tool.
- **Strengthen the overall health system to support providers in the equipment and supplies needed to provide comprehensive care.** The NASG is not intended to be a stand-alone panacea for addressing post-partum hemorrhage. Rather, NASG is one tool in a “continuum of care” approach that can help providers address a woman’s needs – from prevention to treatment – throughout the childbearing stages. Ensuring that facilities are properly equipped, supplied, and functional are critical elements to a provider’s ability to respond to the needs of the situation.



Conclusion: The Road Forward

Post-partum hemorrhage (PPH) is the leading cause of maternal mortality globally, but the condition is also largely preventable. Through active management of the third stage of labor (AMSTL) which involves uterotonic medicines, controlled cord traction, and uterine massage, many cases of death and disability from PPH can be averted.

However, many health workers are often encumbered by drug stock outs or a lack of other equipment at the facility.

This is further complicated by delays - delays in deciding to seek care, delays in reaching care at a facility, and/or delays in receiving definitive care at an appropriate tertiary level facility that provides Comprehensive Emergency Obstetric Care (CEmOC).

NASG is an easy-to-use life saving tool that can help overcome these delays and other constraining factors in the ability of health workers to administer treatment. Through slowing bleeding and stabilizing the patient until she can reach definitive care, women's lives can be saved.

Programs considering NASG implementation would benefit from ensuring that NASG is one tool in a total care approach for the overall management of post partum hemorrhage. Improving the ability of providers and facilities to "supply" life-saving services and generating community support to "demand" these services can help facilitate strong programs that are available when needed.

The experience to date in Timor-Leste has provided promising and positive evidence in support of expanding the program to the national level.

Each and every Timorese women deserves to have access to high quality maternal health care. NASG is a simple, low-cost hemorrhage management device that can be used to buy the time needed until treatment can be received to save lives.



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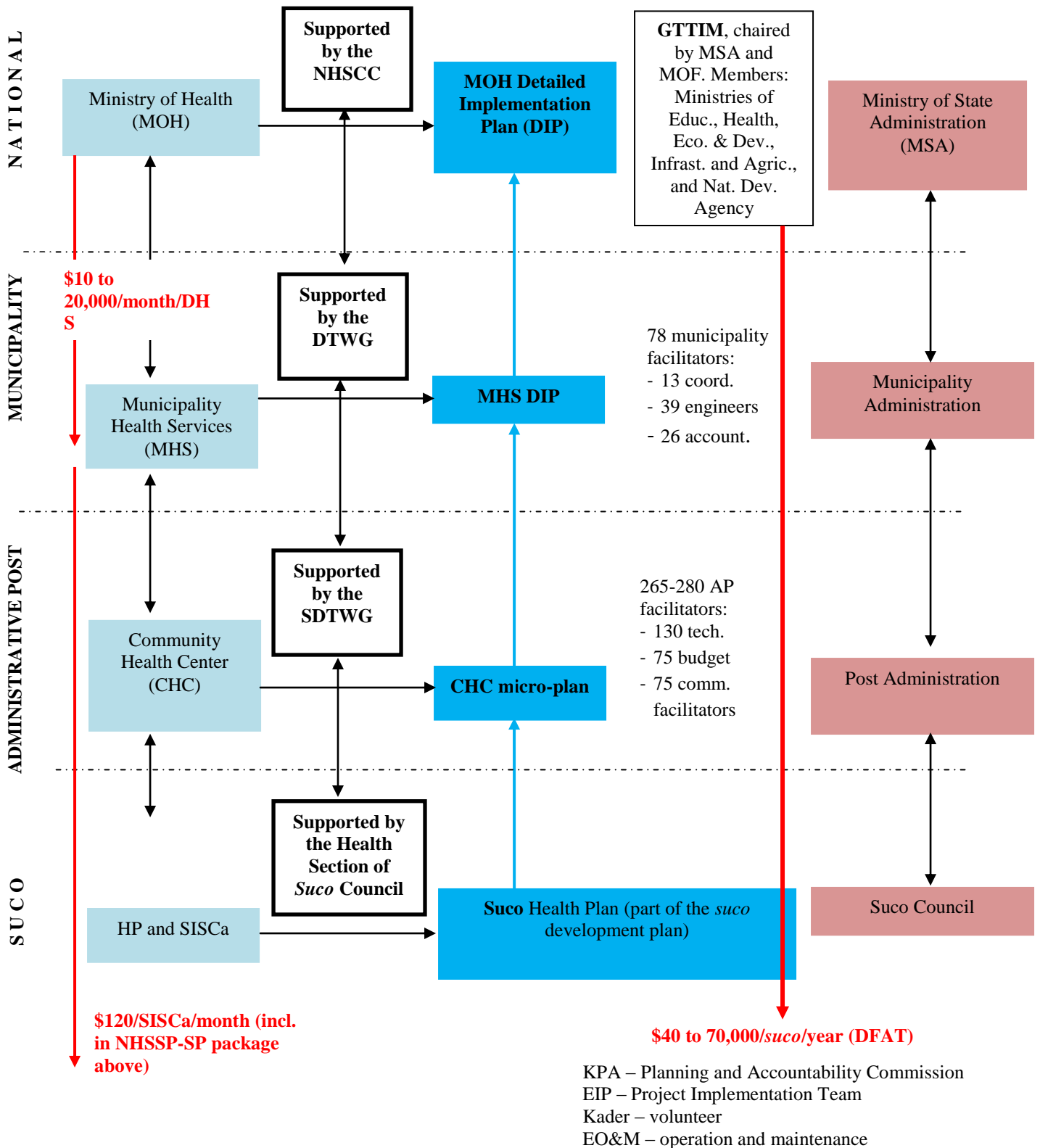
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**Annex 6: Technical groups supporting bottom-up planning and
implementation of activities at community level**

Technical groups supporting bottom-up planning and implementation of activities at community level



Annex 7: Integrated micro-planning for maternal, neonatal and child health

MINISTRY OF HEALTH

Integrated Micro-planning for Maternal, Neonatal and Child Health

Guidelines for MOH

Supported by the Health Improvement Project

7/1/2015

These guidelines describe all the steps in the CHC Micro-plan process with instructions and templates to assist MOH staff in preparing, conducting, implementing and monitoring Micro-plan activities.

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Acronym List

<i>Aldeia</i>	Hamlet
ANC	Antenatal Care
BP/CR	Birth Preparedness/Complication Readiness
CHC	Community Health Center
CYP	Couple Years Protection
DPT	Diphtheria, Pertussis, Tetanus
EPI	Expanded Program on Immunization
FP	Family Planning
HMIS	Health Management Information System
HP	Health Post
LAM	Local Area Monitoring
LISIO	<i>Livrinho Saúde Inan no Oan</i> (Mother and Child Health Booklet)
MCH	Maternal and Child Health
MNCH	Maternal, Neonatal and Child Health
MOH	Ministry of Health
MP	Micro-plan
MPHO	Municipality Public Health Officer
NGO	Nongovernmental Organization
PHC	Primary Health Care
PNC	Postnatal Care
PSF	<i>Promotor Saúde Família</i> (Family Health Promoter)
SBA	Skilled Birth Attendant
SISCa	<i>Serviço Integrado Saúde Comunitária</i> (Integrated Services of Community Health)
SMH	Safe Motherhood
<i>Suco</i>	Village

Section 1 – Overview of the MOH Planning Process

1.1 Introduction and Purpose of the Guideline

This document provides an overview of the MOH Planning process as a background for integrated Micro-planning (MP) at the Community Health Centre (CHC) level to increase coverage of maternal, neonatal and child health (MNCH) services. It is designed to maximize the use of two new sources of information, i.e. the household data, particularly data related to pregnant and post-partum women and their children, which will be collected during the Domiciliary Visit schedule introduced in the Primary Health Care Package of Comprehensive Services¹. The second source of data is being collected and analysed at the community level to monitor and track the services received by pregnant and post-partum women as a means of increasing access to these services².

The purpose of the Guideline is:

- To facilitate standardized collection and compilation of MNCH data and calculation of coverage rates as a basis for identifying underserved populations.
- To identify trends in coverage rates and enable evidence based planning of MNCH activities that will be effective in increasing coverage of MNCH services.

This document is organized in four sections. The first section provides an overview of the health planning process and describes the specific role of the Micro-planning process within it. Section two provides a detailed description of how each of the tools is used for planning, implementing, monitoring and reporting on MNCH interventions to increase coverage. Section three provides instructions for conducting a Micro-plan meeting and section four includes all the templates used in the Micro-planning process, including copies of the MP planning, implementing, monitoring and reporting tools plus instructions on how they are used.

1.2 Overview of CHC Micro-planning

CHC Micro-planning is a targeted, bottom up, participatory, action oriented process:

- **Targeted** because the issues identified and interventions planned are unique to the Administrative Post in which the Micro-planning takes place and respond to the problems reflected in the data.
- **Bottom up** because it analyses data collected by health staff working in Health Posts to identify gaps in the use of maternal, neonatal and child health services and seeks to use interventions that address these gaps.

¹ Ministry of Health (2015) Comprehensive Service Package for Primary Health Care. National Directorate of Public Health, Timor-Leste.

² *Community Monitoring and Tracking Tools for Safe Motherhood and Child Immunization* have been developed by MOH as a means of monitoring and tracking access to MNCH services at the *suco* and *aldeia* level.

- **Participatory** because health staff, community leaders, community volunteers and community organizations working in the planning area are involved in the data analysis, priority setting and action planning process.
- **Action-oriented** because there is a direct link between planning, implementation, monitoring and reporting on outcomes to ensure that they are reaching their target.

CHC Micro-planning results in the delivery of integrated activities that are designed to reach underserved populations, as defined by the Primary Health Care Package of Comprehensive Services. This package aims to prioritize and “adopt the necessary strategies to meet population needs and expectations”³.

1.2.1 Community Health Centre Micro-plan

The key element of Micro-planning is a full day workshop that takes place each quarter and is attended by CHC Managers, CHC Midwife Co-ordinator, Health Post Doctors and Midwives, Municipality Public Health Officers for Immunization, MNCH and Health Promotion, *Suco* Leaders and NGO partners. The output of the workshop is a CHC Micro-plan which includes a list of prioritized problems, strategies and interventions for increasing coverage of maternal, neonatal and child health services, particularly in areas where coverage is low. CHC Micro-plans are aggregated into a Municipality Micro-plan for comparison between all Administrative Posts.

The purpose of the CHC Micro-plan for Maternal and Child Health is to increase ANC4, PNC, Skilled Birth Attendance and immunization of children under 1 to above 80%.

1.3 Integration with MOH Health Planning and Budgeting

Micro-planning that occurs at the CHC level is closely aligned with the MOH Community Health Planning and Budgeting process. The outcomes of CHC Micro-plan activity are monitored by CHC Managers when they meet at quarterly Micro-plan meetings. This meeting serves the same function as the Health Sector Technical Working Group at the Administrative Post level.

The Health Sector Technical Working Group at the Administrative Post level feeds information into the existing coordination structure, such as the Administrative Post Health Council meetings. Its role is to ensure that a common Sub-district Annual Implementation Plan (AIP) is developed, to provide overall technical support and to submit a quarterly performance report to the Municipality Health Director and the Administrative Post Administrator⁴.

Quarterly results of MP activity are aggregated into the Community Health Annual Implementation Plan, which is Level 1 of the Health Planning and Budgeting process (see figure in section 1.3.1 below). In addition, the results of analysis of community access to health care, health system barriers to service

³ Maria do Ceu Pina daCosta, Minister of Health speaking at the launch of the Comprehensive Service Package for Primary Health Care, April 2015.

⁴ Ministry of Health (2014: 123) Health Planning and Budgeting Guidelines All Sections, MOH, Timor-Leste.

provision (discussed in section 2.3) and health facility readiness assessments all provide background for the development of the Community Health Annual Implementation Plan⁵.

⁵ Ministry of Health (2014: 112) Health Planning and Budgeting Guidelines All Sections, MOH, Timor-Leste.

1.3.1 Overall Conceptual Model of Health Planning & Budgeting Processes in Timor-Leste⁶

DEVELOPMENT PLANS

Constitutional Targets



LEVEL 5 NATIONAL

National Annual Implementation Plan (AIP)s

*Sets Objectives, M & E Targets
Decides on Sector & program
Goals and Strategy
Decides Budget & Plan Cycles*

*Sets Development Objectives,
Strategies, Scope for inter -
sectoral actions and
monitoring & evaluation*

LEVEL 4 HOSPITAL

(National Hospital, Referral Hospitals.)

LEVEL 4 NATIONAL INSTITUTES

(SAMES, NHI, National Lab.)



LEVEL 3 MUNICIPALITY

Annual Planning & Budgeting



LEVEL 2 ADMINISTRATIVE POST (CHC)

Planning & budgeting (annual)



LEVEL 1 SUCO (HEALTH POST)

Annual Community Health Planning



*Prioritizes activities by
programs
Adjusts targets & monitors
Requests Budgets*

*Prioritizes activities
Adjusts targets (monitors)
Requests Needs Based
Budgets*

*Inputs from Suco
Development Planning &
Ministry State*

*Identifies local
Needs/activities
Monitors*

⁶ Ministry of Health (2015: 14) Guidelines for Planning and Finance: Session 1 General Vision for the Planning System

1.4 Overview of the Micro-planning Tool

Quantitative data that is recorded by the HMIS, including the number of pregnant women receiving antenatal and postnatal care, delivering with a skilled birth attendant and immunization data for post-partum women and children under 1 is the basis for MP data analysis. The process for using this data in developing CHC Micro-plans is detailed in section 2.

The Micro-planning tools are listed as follows:

- T1.1 CHC Immunization Data Analysis
- T1.2 CHC Maternal Health Data Analysis
- T1.3 Problem Analysis and Identification of Actions
- T2 CHC session plan for Immunization, Maternal, Neonatal and Child Health
- T3 CHC Quarterly Action Plan for Immunization, Maternal, Neonatal and Child Health
- T4.1 Municipality Immunization Analysis
- T4.2 Municipality Maternal Health Analysis
- T5.1 Quarterly and Annual Results for Immunization
- T5.2 Quarterly and Annual Results for MNCH

Section 2 - Instructions for Using the Micro-planning Tool

2.1 Cover

Write the name of the Municipality

Write the name of the CHC

Write the period planned (i.e. July-September 2015)

2.2 CHC Immunization Data Analysis (T1.1)

Objective:

To compile the coverage results for immunization for each *suco* including whether the dropout rate is under or above 10% and prioritize *sucos* according to those with the highest number of unimmunized children <1.

Preparation

Write the health facility name (see Appendix T1.1).

Write the date the Micro-planning exercise was conducted

Write all *suco* coverage data from the previous quarter, as described below.

Table 1.1: CHC Immunization Data Analysis	
Suco and target population	
Column a	List all sucos in the CHC area
Column b	List quarterly targets of children <1 (estimations divided by 4)
Column b1	List quarterly targets of pregnant women (estimations divided by 4)
Immunization achievements for the quarter (absolute numbers)	
Column c	Fill the number of children <1 who were immunized for DPT-Hep B1
Column d	Fill the number of children <1 who were immunized for DPT-Hep B3
Column e	Fill the number of children <1 who were immunized for Measles
Column f	Fill the number of women who were immunized for TT more than twice
Immunization coverage for the quarter (%)	
Column g	Automatic calculation of DPT-Hep B1 coverage
Column h	Automatic calculation of DPT-Hep B3 coverage
Column i	Automatic calculation of Measles coverage
Column j	Automatic calculation of TT2+ coverage
Results of children <1 who were not immunized	
Column k	Fill the number of children who did not receive DPT-Hep B3 immunization
Column l	Fill the number of children who did not receive Measles immunization
Column m	Automatic calculation of DPT-Hep B3 immunization dropout rate
Column n	Automatic calculation of Measles immunization dropout rate
Assessment of results of children <1 who were not immunized	
Column o	If the coverage rate is <80% the assessment is Poor, and if not it is Good
Column p	If the dropout rate is >10% the assessment is Poor, and if not it is Good
Categorization of results of children <1 who were immunized	
Column q	1: where the assessment of coverage and drop rates are Good 2: where the assessment of the coverage rate is Good and dropout is Poor 3: where the assessment of the dropout rate is Good and coverage is Poor 4: where the assessment of both the coverage and the dropout rate is Poor
Prioritization of aldeias according to the results of children <1 who were immunized	
Column r	Prioritize all sucos according to the highest number of un-immunized children (column k) to the lowest, taking note also of the number of women immunized for TT more than twice.

Some important considerations in analysis of the data:

1. Analysis of coverage is the basis for measuring access to immunization services.
2. The most important information is the number of un-immunized children and the number of women immunized two or more times for TT.

3. The *sucos* with the highest numbers of un-immunized children are prioritized as category 1, although they may not be the *sucos* with the lowest coverage rate. The number of women with TT2+ immunization should also be taken into account in setting priorities and planning action.
4. The dropout rate is important for measuring access and utilization of immunization services. High coverage for DPT-Hep B1 for example indicates that access to immunization services is very good. However, a high dropout rate may indicate that, although access is good for the first dose, utilization still remains low as assessed by a high dropout rate, i.e. >10%.

2.2 CHC Maternal Health Data Analysis (T1.2)

Objective:

To compile the coverage results for maternal health in order to present to CHC staff, Health Post staff, *Suco* Chiefs, Aldeia Chiefs, PSF Coordinators and other Administration Post and community leaders.

Preparation

- Fill the health facility name (see Appendix T1.2)
- Fill the date the Micro-planning exercise was conducted
- Fill all *suco* coverage data from the previous quarter, as described below.

Table 1.2: CHC Maternal Health Data Analysis

Suco and target population	
Column a	List all <i>sucos</i> in the CHC area
Column b	List quarterly targets of pregnant women (estimations divided by 4)
Column b1	List quarterly targets of live births (estimations divided by 4)
Column b2	List quarterly targets of married women of reproductive age 15-49 (estimations divided by 4)

Safe motherhood and family planning achievements for the quarter (absolute numbers)

Column c	Fill the number of pregnant women who went for antenatal consultation once (ANC1)
Column d	Fill the number of pregnant women who went for antenatal consultation 4 times (ANC4)
Column e	Fill the number of women who delivered with a Skilled Birth Attendant (SBA)
Column f	Fill the number of mothers who went for first postnatal consultation (PNC1)
Column g	Fill the number of mothers who went for second postnatal consultation (PNC2)
Column h	Fill the number of women of reproductive age who began using a family planning method

Safe motherhood and family planning coverage (%)

Column i	Automatic calculation of ANC1 coverage
Column j	Automatic calculation of ANC4 coverage
Column k	Automatic calculation of SBA coverage
Column l	Automatic calculation of PNC1 coverage

Column m	Automatic calculation of PNC2 coverage
Column n	Automatic calculation of family planning coverage (CPR)

Priority sucos	
Column o	Automatic calculation of pregnant women who did not go for ANC1
Column p	Automatic calculation of pregnant women who did not deliver with SBA
Column q	Automatic additions of columns o and p
Column r	Rank <i>sucos</i> from highest number to smallest number in column q

Some important considerations in analysis of the data:

1. Analysis of coverage is the basis for measuring access to maternal health services.
2. The most important information is the number of pregnant woman who have not had ANC1 (column o) and the number of pregnant women who did not deliver with a skilled birth attendant (column p).
3. The *sucos* with the highest number of pregnant women who have not had ANC1 and who have not delivered with a skilled birth attendant (column q) are ranked as category 1 upwards, although they may not be the *sucos* with the lowest coverage rate. All other *sucos* are prioritized using this criteria.

2.3 Problem Analysis and Identification of Actions (T1.3)

Objective

To identify activities to reduce “bottlenecks” and increase coverage in underserved aldeias in each *suco*.

Preparation

- Purchase white papers (A3) and markers for drawing *suco* maps
- Print one template (one copy of T1.3) per *suco* in A3 format (see Appendix T1.3)
- Fill the name of the *suco*
- Fill the summary of quarterly targets and achievements table. This table is to be filled out by the MPH0 before the Micro-planning meeting in order to facilitate the work of *Suco* Chiefs.

NB: All data is taken from T1.1 and T1.2 for immunization and maternal health using automatic calculations.

During the Micro-planning meeting

Present the data per *suco* to all participants, using T1.1. T1.2 and T5.1 and T5.2, encouraging all *Suco* Chiefs to pay attention to their own *suco*.

1. Divide into groups – one for each *suco*

The group discussion is led by the *Suco* Chief with assistance from the MPHO technical officer who has prepared the summary of quarterly targets and achievements in T1.3.

2. Social mapping (this activity is done once at the start of each year)

Drawing a social map of the CHC area demonstrates where the unreached population is situated. This helps with setting priorities for action and deciding on which service strategy to apply (Fixed, SISCa, Outreach or mobile strategy).

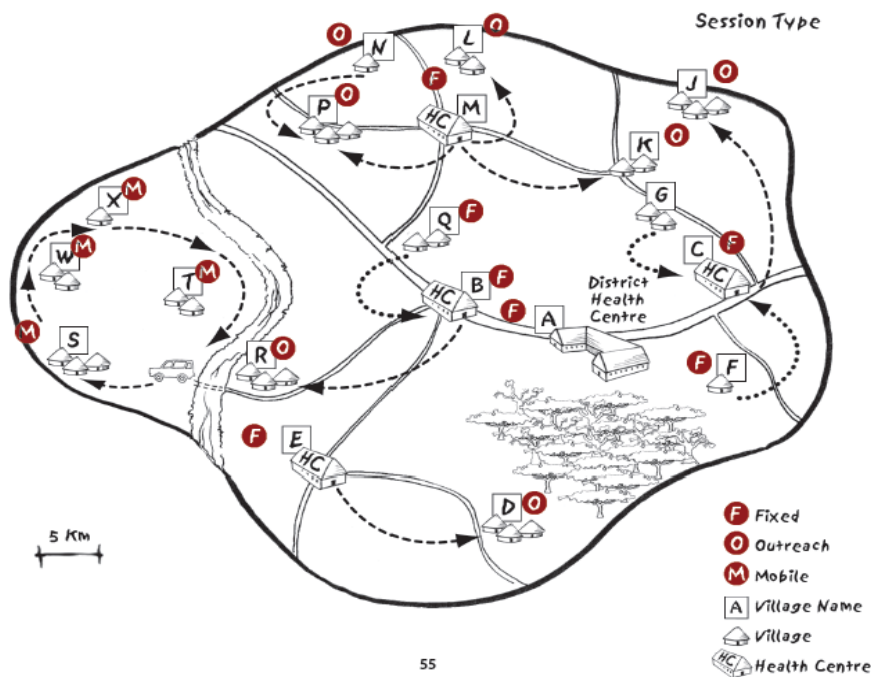
The social map should contain all important features of the Municipality such as:

- Roads and geographical landmarks
- Distance between each village and the Health Post and CHC
- Transport used by staff from health facility to reach each area and the approximate time taken

Write the service delivery strategy on the map where it will be used. In determining the service delivery strategies, the group should focus on the following questions:

- Why are the populations not being currently reached?
- Is this due to a:
 - **health system barrier** (lack of human resources or transport for example)
 - **community barrier** (lack of knowledge of the services by the population) or
 - **geographic barrier** (distance, road conditions)?

Sample Map



Service delivery strategy is defined according to the following:

Type	Definition
Fixed site (F)	Health facility has a refrigerator and provides immunization services on a regular basis; a midwife is based at the health facility to provide ANC, PNC, SBA.
SISCa (S)	Health workers go to the site to conduct the integrated services including immunization, ANC and PNC services. SISCa activity occurs once a month.
Outreach (O)	Safe Motherhood and Immunization services are provided in the outreach area of SISCa.
Other	Health staff provide information through e.g. Focus Group Discussions on danger signs during pregnancy, delivery and after delivery and immunization for new born children, home visits and reminder for pregnant women to have ANC consultation.

3. Barriers identification and action plan

Use the map and immunization and maternal health data (see below) and other related information to decide on the service delivery strategies (Fixed, SISCa, Outreach, mobile) for all villages or isolated populations in the catchment area:

- Total and target populations according to *suco* and *aldeia*
- Number of unreached children in the last quarter
- Number of pregnant women without K4 and SBA in the last quarter
- List of pregnant women and children under one from the Domiciliary Visit Register
- Summary results from the enumeration of pregnant women and children under one in *sucos* where *Safe Motherhood and Child Immunization*⁷ tools have been used.

4. Monitoring and tracking strategies in the community

Using the above data sources, particularly enumeration of pregnant women and children under one, identify areas and individuals where follow up action is required and agree on how this will happen.

In the case of pregnant and post-partum women:

- identify gaps including absence of birth plans, low numbers of ANC, PNC or SBA
- identify pregnant women, or clusters of pregnant women, who require follow up
- based on the above information, determine *aldeias* with highest needs
- determine methods of intervention, including:
 - home visits by domiciliary team, doctor, midwife
 - follow up phone reminders from the midwife
 - SISCa, day/night events, Outreach, FGD

⁷ *Community Monitoring and Tracking Tools for Safe Motherhood and Child Immunization* have been developed by MOH as a means of monitoring and tracking access to MNCH services at the *suco* and *aldeia* level.

In the case of unimmunized children:

- identify gaps in immunization coverage
- identify clusters of children under one who require follow up
- based on the above information, determine aldeias with greatest needs
- determine methods of intervention, including:
 - home visits by domiciliary team, doctor, psf
 - follow up reminders from health staff and psf
 - SISCa, day events
 - engaging local organisations to advocate bringing children for immunization
 - increased monitoring.

When the service strategy and actions have been identified complete Table 1.3 as follows (see Appendix T1.3):

Table 1.3: Problem Analysis and Identification of Actions	
Column a	List all aldeias in the suco
Column b	Indicate where the population in that aldeia accesses health services: <ul style="list-style-type: none">- CHC- Health Post- Private clinic- SISCa- Nowhere- ...
Column c	Identify the barriers that the population in each aldeia faces to access health services
Column d	Identify the type of activity that should be conducted in each aldeia in order to increase the coverage
Column e	Describe the activity that will be conducted in each aldeia, e.g. <ul style="list-style-type: none">- F = health facility = actions to be conducted at the health facility (fixed point)- S = SISCa = actions to be conducted during SISCa- O = Outreach = actions to be conducted during outreach- Others = FGD, day/night events, home visits, follow up of individual women or families, school health, trainings...

2.4 CHC Session Plan (T2)

Objective

To develop a session plan that responds to the activities identified in T1.3. The CHC Session Plan details the schedule for the work to be done by health staff at the Health Post and CHC, including the type and frequency of each session.

1. Estimate annual workload based on number of injections per year

- multiply annual target population by 7
 - 7 injections (BCG-1, DPT-HepB 3, Measles-1, TT-2) to fully immunize an infant and a pregnant woman.
2. Calculate monthly workload by dividing annual workload by 12
 3. Determine number of sessions per month
 - Divide monthly workload by 80 or 40 (approx.80 injections for fixed site and approx.40 injections for outreach site)

2.5 CHC Quarterly Action Plan (T3)

Objective

To prepare a work plan for the next quarter detailing when and where the activities identified in T1.3 and T2 will occur and how they will be monitored.

Using T3 (see appendix) prepare a health facility work plan based on the health facility session plan and problem analysis.

Table 3: CHC Quarterly Action Plan for Immunization, Maternal, Neonatal and Child Health	
Column a	List all sucos in the CHC area
Column b	Write the type of action, e.g. F. S. O, other
Column c	Write the type of service to be provided e.g. SISCa, immunization, ANC, FGD on danger signs, Family Planning etc.
Column d	Information required for planning the activity is listed in this column
Column e	Write the details concerning the date and time when the activity in the first month in the quarter will occur, the transport required, who is responsible and if Municipality support is required
Column f	Write the details concerning the date and time when the activity in the second month in the quarter will occur, the transport required, who is responsible and if Municipality support is required
Column g	Write the details concerning the date and time when the activity in the third month in the quarter will occur, the transport required, who is responsible and if Municipality support is required

Some important things to remember in completing this plan:

1. Try to schedule fixed sessions on the same day(s) each week
2. Try to schedule outreach sessions on the same day each week or the same date each month to make it easier for the community to remember.
3. Ensure that the dates planned do not conflict with one another.
4. Include activities that were identified in the problem solving exercise for T1.3
5. Include routine activities that are planned, including training, monitoring, etc.

6. Use the work plan to monitor sessions planned versus sessions completed. At each Micro-plan meeting write the date that each activity actually occurred.

2.6 Municipality Immunization Analysis (T4.1)

The CHC micro-plans for immunization can be aggregated into a Municipality Micro-plan (see Appendix T4.1). From the CHC plans, the target populations and doses administered can be aggregated on to one planning sheet to provide a municipality analysis of CHC coverage and drop out. It will also enable an assessment to be made of the priority CHCs for reducing the number of un-immunized post-partum women and children under 1.

2.7 Municipality Maternal Health Analysis (T4.2)

The CHC micro-plans for maternal health can be aggregated into a Municipality Micro-plan (see Appendix T4.2). From the CHC plans, the target populations and services received can be aggregated on to one planning sheet to provide a municipality analysis of CHC coverage. It will also enable an assessment to be made of the priority CHCs for reducing the number of women who are not receiving ANC, PNC or SBA.

2.8 Monitoring Quarterly and Annual Immunization Results (T5.1)

Results from the previous four quarters can be used to show immunization coverage trends in graph form. The results for DPT-HepB1, DPT-HepB3 and Measles for each *suco* in the Administrative Post demonstrate quarterly increases or decreases in coverage. This provides evidence for prioritizing focus *sucos* for the next quarter. An example from Lacro Administrative Post demonstrates quarterly and annual EPI results in Appendix 5.1.

2.9 Monitoring Quarterly and Annual Maternal Health Results (T5.2)

Results from the previous four quarters can be used to show coverage trends in graph form. The results for ANC4, Skilled Birth Attendance, PNC 1 and PNC2 for each *suco* in the Administrative Post demonstrate quarterly increases or decreases in coverage. This provides evidence for prioritizing focus *sucos* for the next quarter. An example from Lacro Administrative Post demonstrates quarterly and annual MCH results in Appendix 5.2.

Section 3 - Conducting the Micro-plan Meeting

Strategy:

There are two strategies for conducting the planning meeting, i.e.

1. Develop the CHC Micro-plan at the CHC level with Municipality support.

2. Develop the CHC Micro-plan at the Municipality level with the participation of all CHC managers.

If the second option is taken, then CHC managers should be encouraged to bring mapping, population and coverage data *for the full previous year* to the meeting.

Micro-plan meeting at Administrative Post level (Strategy 1)

Objective:

To review results of immunization and maternal, neonatal and child health coverage for the previous quarter and develop a plan to increase coverage and reach previously unreached populations in the next quarter.

Participants:

Participants should include *suco* and aldeia chiefs, psf, Partners, church representatives, MPHO-HP, MPHO-MCH, MPHO-EPI, CHC Managers, midwives and doctors from CHC and HP, Administrative Post Administrator and PNTL representative.

3.1 Agenda for CHC Micro-plan meeting

➤ **Opening**

➤ **Data Analysis (1.1, T1.2, T5.1, T5.2):**

Present coverage data for the previous quarter using graphs in T5.1 and T5.2 to compare data from the last three quarters.

Highlight where immunization coverage has decreased and the dropout rate has increased. Highlight where MNCH coverage has decreased during the last quarter.

➤ **Problem Analysis and Identification of Actions (T1.3):**

Divide into one group for each *suco* to identify priority actions to respond to the problems that are identified.

➤ **CHC Quarterly Plan of Action (T3):**

In a plenary session :

- Develop the CHC Quarterly Action Plan for the next quarter (T3)
- Write the date that activities were implemented in the previous quarter
- Identify the reasons why planned activities did not occur and agree on corrective actions so that all activities are implemented as planned during the next quarter.

➤ **Next Meeting Date:**

Decide the date, time, place and preparation for the next Micro-plan meeting.

➤ **Closing**

3.2 Preparation for the following Micro-plan meeting

Responsible	Task/Materials
MPHOs	Collect HMIS data and complete T1.1, T1.2, T5.1, T5.2
Midwives	Ensure enumeration of pregnant women data is updated to bring to the meeting
HP Health Staff	Bring Domiciliary Visit Register to the meeting
<i>Suco</i> Leaders	In <i>sucos</i> where Safe Motherhood enumeration has been done: <ol style="list-style-type: none"> 1. prepare a summary report (T6) including the number of pregnant women, the number and percentage with a birth plan, ANC, PNC and 2. bring the results of pregnant women enumeration, showing numbers and location of women who need ANC, PNC and education about SBA
<i>Suco</i> Leaders	In <i>sucos</i> where Child Immunization enumeration has been done: <ol style="list-style-type: none"> 1. prepare a summary report (T6) including the number of children under one, and the number and percentage who have been immunized and 2. bring the results of child immunization enumeration, showing the numbers and location of unimmunized children.

Table 1.1: CHC Immunization Data Analysis

[illegible]

Table 1.2: CHC Maternal Health Data Analysis

Table 1.2: CHC Maternal Health Data Analysis																				
Health Facility:			Date:																	
			Target Population and coverage data for safe motherhood and family planning for the past three months																	
			Target Population			Absolute Number						Coverage (%) and CYP						Priority Area		
SUCO	Pregnant Woman	Newborn	Married women 15-49	AN C1	AN C4	SBA	PNC 1	PNC 2	FP acceptor	AN C1	AN C4	SBA	PNC 1	PNC 2	CYP	No of pregnant women who did not have ANC1	No of pregnant women who delivered without SBA			Total
	a	b	b1	b2	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
		Estimation/4	Estimation/4	Estimation/4							c/bx100	d/bx100	e/bx100	f/bx100	g/bx100	h/bx100	b-c	b1-e	o+p	1,2,3,4,5...
Total																				

Table 1.3: Problem Analysis and Identification of Actions

Table 1.3 Problem Analysis and Identification of Actions

Name of Suco: _____ Date: _____

Summary of achievements for the past 3 months

Target for 3 months		Number that did not receive services	
Target Group	Number	Program	Number
Pregnant Women		ANC1	
		ANC4	
		SBA	
		PNC1	
Post-Partum		PNC2	
Married women 15-49		PF	
Children < 1		DPT-HepB 3	
		Measles	

Action Plan

Aldeia	Access to Health Facility	Problems that are identified in each Aldeia that contribute to low coverage	Choose activity that will occur in each Aldeia to address the problems that were identified	
			F, S, O, other	Description
a	b	c	d	e

Table 2: CHC Session Plan for Immunization, Maternal, Neonatal and Child Health

Name of Health Facility Catchment Area:					Date:				
Table 2.1: Session Plan for Immunization									
Immunization Post (F,S,O)	Total Population	Target Population	Type of Session (Fixed, SISCa, Outreach)	Injection each year (target population X 7)	No. of injections each month (Injections each year/12)	Session estimated each month (divide by 80 for fixed and 40 for outreach and SISCa)	Actual session planned each month (realistic judgement)	Other interventions? Night event, orientation for community leaders, etc	
a	b	c	D	e	f	g	h	i	
						f / 80 for fixed and f / 40 for SISCa and outreach			
	Estimation	Estimation	F, S, O	c x 7	e / 12				
Total									

Table 2.2: CHC Session Plan for Maternal Health Services

Name of place for ANC Service	Population total	Population Target	Type of Session (Fixed, SiSCa, Outreach)	Number of ANC each year (target population X 4)	No of ANC each month (number of ANC each year/12)	Session estimated each month (divide by 30 for fixed and 20 for outreach and SiSCa)	Actual session planned each month (realistic judgement)	Other interventions? Night event, orientation for community leaders, etc
a	b	c	d	e	f	g	h	i
	Estimation	Estimation	F, S, O	c x 4	e / 12	f/30 for fixed and f/20 for SiSCa and outreach		
Total								

Table 3: CHC Quarterly Action Plan for Immunization, Maternal, Neonatal and Child Health

Table 3 : CHC Quarterly Action Plan for Immunization, Maternal, Neonatal and Child Health									
a	b	c	d	e	f	g	h	i	j
Suco	Aldeia	Type of action : F, S, O, other	Type of service(for F and O only): Immunization, ANC, FP...	1st Month	Jan'15	2 nd Month	Feb'15	3 rd Month	Mar'15
				Date planned:		Date planned:		Date planned:	
				Time:		Time:		Time:	
				Date Implemented:		Date Implemented:		Date Implemented:	
				Transport:		Transport:		Transport:	
				Responsible:		Responsible:		Responsible:	
				Municipality Support:		Municipality Support:		Municipality Support:	
				Date planned:		Date planned:		Date planned:	
				Time:		Time:		Time:	
				Date Implemented:		Date Implemented:		Date Implemented:	
				Transport:		Transport:		Transport:	
				Responsible:		Responsible:		Responsible:	
				Municipality Support:		Municipality Support:		Municipality Support:	
				Date planned:		Date planned:		Date planned:	
				Time:		Time:		Time:	
				Date Implemented:		Date Implemented:		Date Implemented:	
				Transport:		Transport:		Transport:	
				Responsible:		Responsible:		Responsible:	
				Municipality Support:		Municipality Support:		Municipality Support:	
				Date planned:		Date planned:		Date planned:	
				Time:		Time:		Time:	

			Time:	Date Implemented:	Time:	Date Implemented:	Time:	Date Implemented:
			Time:	Date Implemented:	Time:	Date Implemented:	Time:	Date Implemented:
			Time:	Date Implemented:	Time:	Date Implemented:	Time:	Date Implemented:
Activities identified during the problem solving exercise			Time:	Date Implemented:	Time:	Date Implemented:	Time:	Date Implemented:
Routine Activity			Time:	Date Implemented:	Time:	Date Implemented:	Time:	Date Implemented:
Monitoring of Implementation of Sessions			Time:	Date Implemented:	Time:	Date Implemented:	Time:	Date Implemented:

Table 4.2: Municipality Maternal Health Analysis

Table 4.2: Compilation of Municipality Maternal Health Data Analysis																				
Health Facility:			Date:																	
CHC	Target Population and coverage data for safe motherhood and family planning for the past three months											Priority Area								
	Target Population			Absolute Number					Coverage (%) and CYP											
	Pregnant Woman	Newborn	Married women 15-49	AN C1	AN C4	SBA	PNC 1	PNC 2	FP acceptor	AN C1	AN C2	SBA	PNC 1	PNC 2	CYP	No of pregnant women who did not have ANC	No of pregnant women who delivered without SBA	Total	Ranking	
	a	b	b1	b2	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
		Estimation/4	Estimation/4	Estimation/4							c/bx100	d/bx100	e/bx100	f/bx100	g/bx100	h/bx100	b-c	b1-e	o+p	1,2,3,4,5...
Total																				

Table 5.1: Quarterly and Annual Coverage results for Immunization (Laclo Administrative Post example)

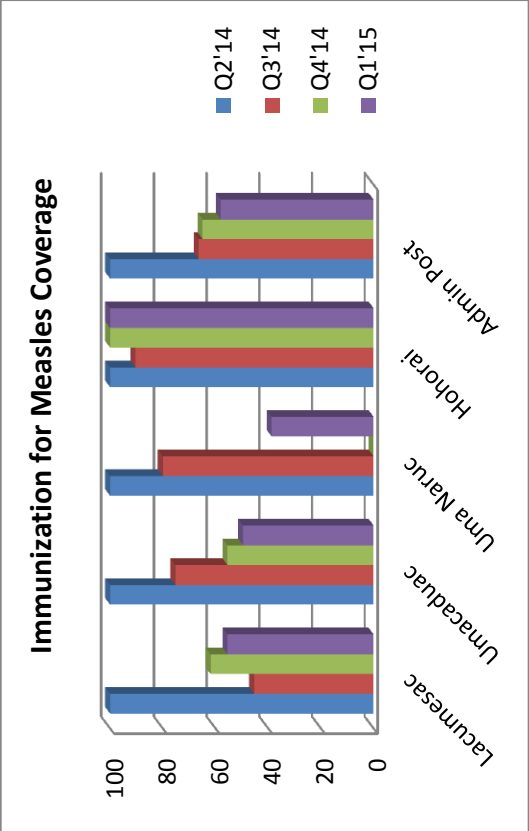
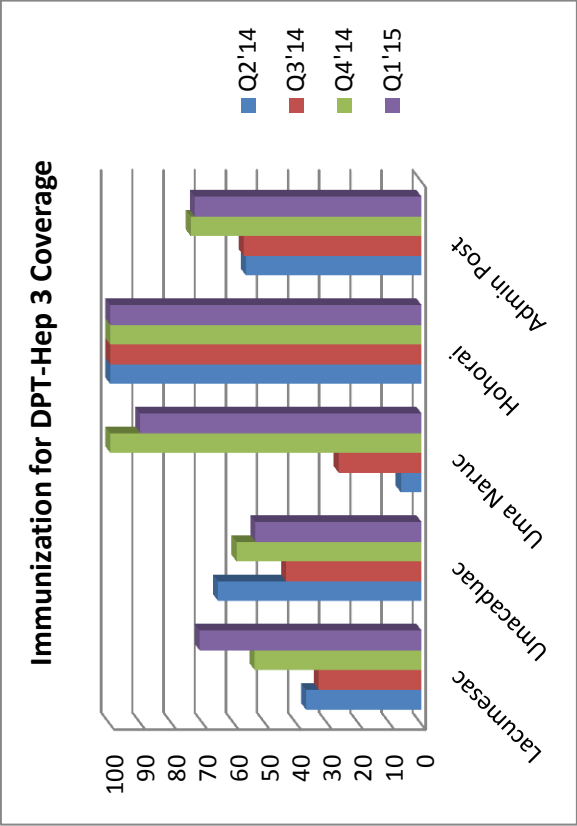
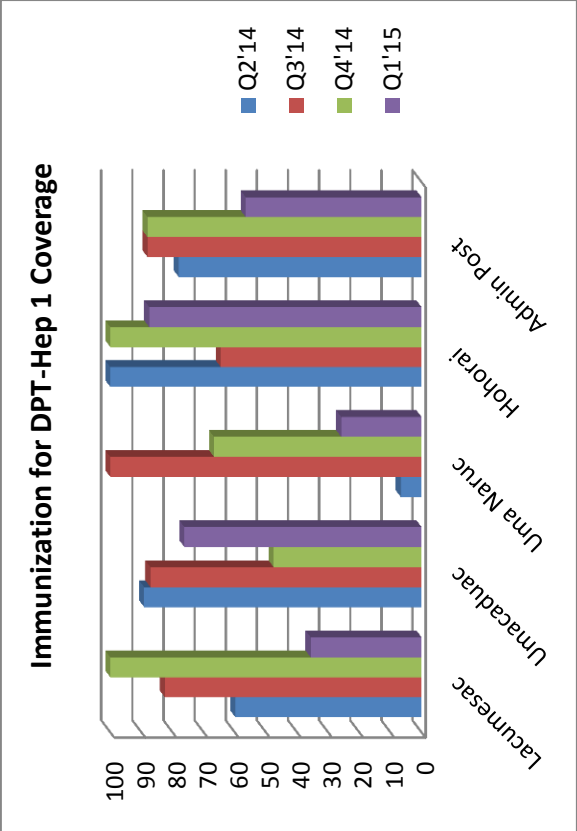


Table 5.2: Quarterly and Annual Coverage Results for Maternal Health (Laclo Administrative Post example)

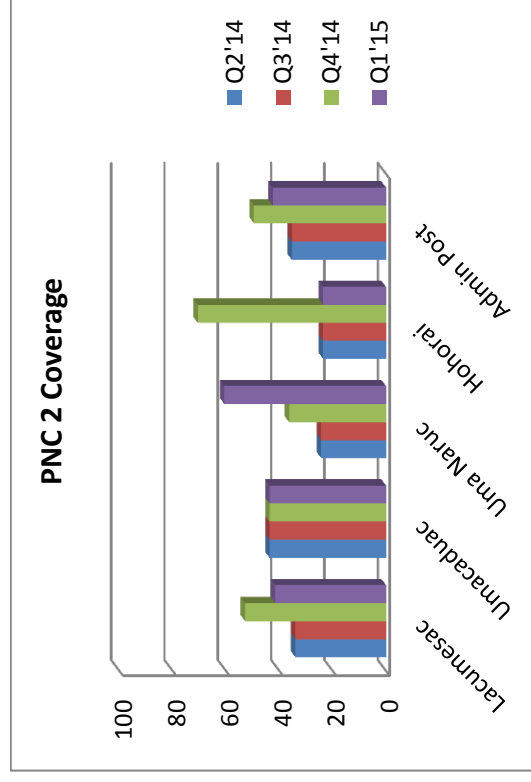
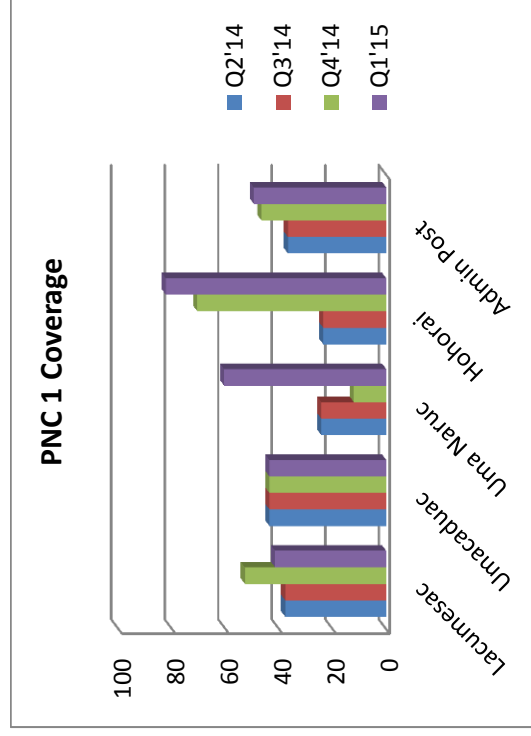
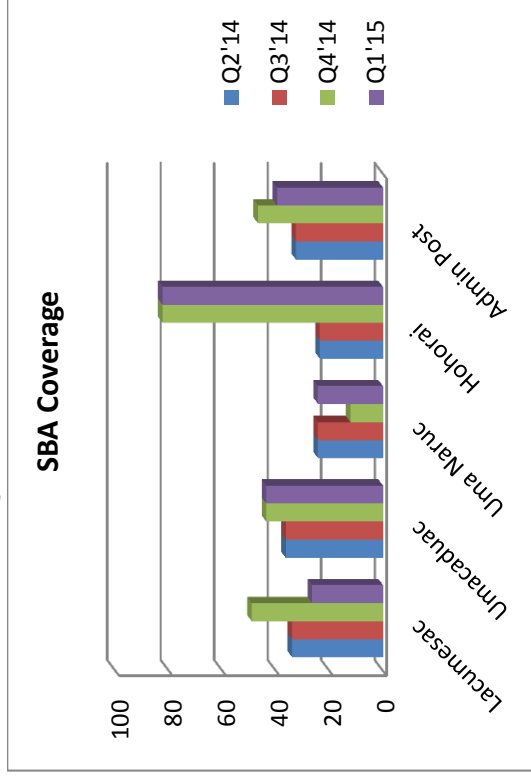
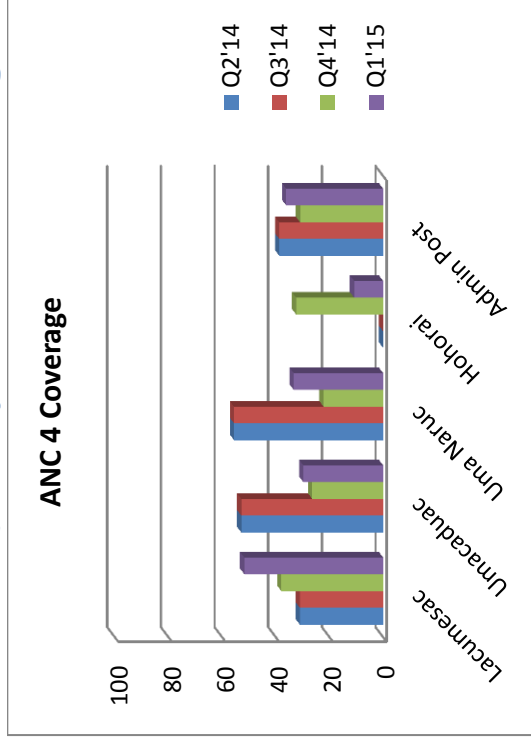


Table 6: Suco Plan of Action in response to Safe Motherhood and Child Immunization enumeration data

No	Priority Problem	Intervention	Who will be involved	Materials	Time

Annex 8: Technical Brief: Engaging Communities to Improve Health

Timor-Leste Health Improvement Project

Engaging Communities to Improve Health

The United States Agency for International Development (USAID) supports the **Health Improvement Project, known locally as HADIAK**, as part of the overall United States Government package of assistance to Timor-Leste. HADIAK is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), municipality level (municipality health services–MHS), administrative post level (community health centers–CHCs), and community level (health posts–HPs and integrated community health services–SISCa) to benefit health workers and communities through mentoring and training. Implementation focuses on the municipalities of Ermera, Manatuto, and Oecusse.

INTRODUCTION

Increasing community involvement in addressing maternal, neonatal and child health (MNCH) and family planning (FP) is a central objective of the USAID-funded Health Improvement Project (HIP) in Timor-Leste. Since October 2011, HIP has worked with the Ministry of Health (MOH) to engage community leaders in a systematic process of promoting healthy behaviors in their *sucos* (towns) and *aldeias* (communities) in order to improve maternal, neonatal and child health outcomes. The key to this process is health education of *suco* and *aldeia* leaders so that they are motivated and equipped to mobilize their communities to assess, understand, and plan to address health needs.

Community mobilization efforts were introduced in eight *sucos* to facilitate the development of *suco* action plans for health, which include evidence-based interventions for improving MNCH at the community and household level. The plans incorporate activities that focus on helping pregnant women and their families prepare for safe deliveries, newborn health, breast-feeding, nutrition, childhood immunization, and family planning education.

APPROACH

HIP worked with MOH staff at the municipality level to involve members of households, *aldeias*, and *sucos*, plus staff from health posts (HP) and community health centers (CHCs) in promoting, reinforcing, and practicing healthy behaviors. The objective was to empower community leaders to make informed decisions about the health needs of their communities and maximize available resources to increase demand for and provision of health services. This process included the following steps:

1. Advocacy at administrative posts in *sucos* where community engagement in health planning would be introduced;
2. Assessment of health needs;
3. Formulation of a *suco* action plan for health;
4. Implementation of the *suco* action plan for health.



Municipality Health Services (MHS) staff interact with community members to explain a new birth preparedness tool which is now in use nationwide.

KEY ACTIVITIES

The bottom-up planning process includes four stages:

1) Selection of focus *sucos*: The MOH's health management information system (HMIS) registers provide important information on the health status of *suco* populations. This data was used as the evidence base for identifying *sucos* where community engagement in health action planning would be prioritized. *Sucos* were selected according to the following criteria:

- Large target population with low rates of MNCH and FP coverage;
- Receptivity of community leaders to prioritize and implement interventions that would improve MNCH outcomes;
- Health facilities which would benefit from infrastructure improvements recommended during facility readiness assessments and supportive supervision; and
- Potential to obtain resources for infrastructure improvements.

2) Assessment of health needs: HIP coordinated the training of community facilitators to conduct community health assessments using Participatory Rural Appraisal Tools. The results of the health assessments revealed challenges and opportunities for increasing coverage of Antenatal Care (ANC), Postnatal Care (PNC), Skilled Birth Attendance (SBA) and immunization of children under one; these results were presented to *Suco* Councils and presented to members of the community at special events to inform them of the health action planning process.

3) Development of *suco* action plans for health: HIP worked with municipality health service (MHS), *suco* chiefs, and health personnel at facilities to develop the evidence-based action plans for health using:

- HMIS data showing the percentage of pregnant women and children under one accessing the health facility;
- The results of care-seeking assessments which identified the main barriers faced by the community in accessing health services; and
- The results of facility readiness supportive supervision which detailed the condition of the *suco*'s health facilities, especially in terms of infrastructure.

HIP engaged *suco* chiefs to participate in supportive supervision visits to health facilities in their communities, which are conducted on a quarterly basis by the MHS, to inform them of infrastructure needs. Using the *Facility Readiness Format* (FRF), *suco* chiefs and health personnel agree on actions to be taken by the facility and/or the MHS. These actions are prioritized in the health action plan along with interventions to address the health needs of the community, as illustrated below in the Carui *Suco* (Manatuto Municipality) Action Plan.

4) Implementation of *suco* action plans for health: Health Action plans commonly include interventions to increase coverage of essential maternal and neonatal services and improvements to health facilities. *Suco* councils

Carui *Suco* Action Plan for Health (April 2015)

No.	Priority	Intervention	Persons Responsible	Timeline
1	MNCH Services	Continue to mobilize the community to attend SISCs, ANC consultation & immunization of newborn children	Families, <i>Suco</i> Council, PSF	Monthly
2	Preparation for Safe Motherhood	Enumerate, update, & track pregnant women to ensure they complete 4 ANC & plan to deliver with a skilled birth attendant	Midwife, PSF, <i>Suco</i> Council	Monthly
3	Preparation for Safe Motherhood	Organize group discussions in each <i>aldeia</i> for pregnant couples to provide birth preparedness & complication readiness planning	Midwife, Doctor, <i>Suco</i> Council	Monthly
4	Health Facility Repairs	Obtain funding from PNDS to repair the Health Post solar panel	<i>Suco</i> Head, <i>Suco</i> Council, PNDS	April 2015

monitor the implementation of their plans, ensuring that key messages are delivered through *SISCa*, outreach events, focus group discussions, FP advocacy meetings, and other health promotion events.

All *sucos* with health action plans focus on improving preparation for safe motherhood using new tools developed with HIP's support to identify pregnant women and children under one and record information about the delivery date, ANC, whether they plan to deliver with a skilled birth attendant, if they have a birth preparedness and complication readiness plan, and where there are unimmunized children.

This data, which are collected by trained Family Health Promoters (PSFs), monitored by midwives and PSFs, and presented by *suco* chiefs to *Suco* Council meetings to identify gaps and priority areas for intervention. *Suco* chiefs subsequently report this information to the quarterly meetings held at the CHC level (also called microplan meetings).

Suco chiefs play a critical role in obtaining the resources necessary for health infrastructure improvements. By witnessing infrastructure conditions at facilities during supportive supervision visits, *Suco* chiefs are motivated to obtain the funding required for renovation, construction, and new equipment. HIP assisted *suco* councils to identify and advocate for funding available through the Ministry of State Administration (MSA) such as the National *Suco* Development Program (PNDS) that was established specifically for infrastructure improvements at the *suco* level, the Decentralized Development Package (PDD) or the Integrated District Development Plan (PDID).

RESULTS

During HIP's four-year project lifecycle, the process for developing *suco* action plans for health was implemented in twelve *sucos*. Action plans were developed and revised annually. The implementation of *suco* action plans for health led to increases in the use of health services, a systematic process for increasing safe motherhood tracking at the household, community, and administrative post levels, and major improvements to health infrastructure.

Increased Use of Health Services as a Result of Community Engagement in Health Planning

Coverage of antenatal care, post-natal care, skilled birth attendance, and immunization of children under one increased in *sucos* that had implemented action plans for health compared with the municipality average.

Community leaders have gained increased awareness and knowledge of the health needs of their community through developing and implementing health action plans; they have used this knowledge to promote healthy behavior and utilization of health services, and advocate for investment in health services and infrastructure improvements. Attitudes and awareness among community leaders surrounding their role in improving health outcomes in their communities were captured in a mixed methods maternal and neonatal



HIP, MHS, and facility staff meet with community leaders during a supportive supervision visit at a health post to review the FRF and discuss priorities for improving the facilities in the *suco*.

"As chief of community I have responsibility for advocacy and socialization of women to visit the health facility to reduce maternal and child mortality in our village" (Male Community Leader).

"Community leaders need to work together with health staff and the community to give information to pregnant women that they can pass on to other women so they know that if there is a bleeding case they must bring the woman to hospital. If we don't take this action then the mother and baby will die" (Female Community Leader).

Tracking Safe Motherhood Preparation at the Household, Community and Administrative Post Level

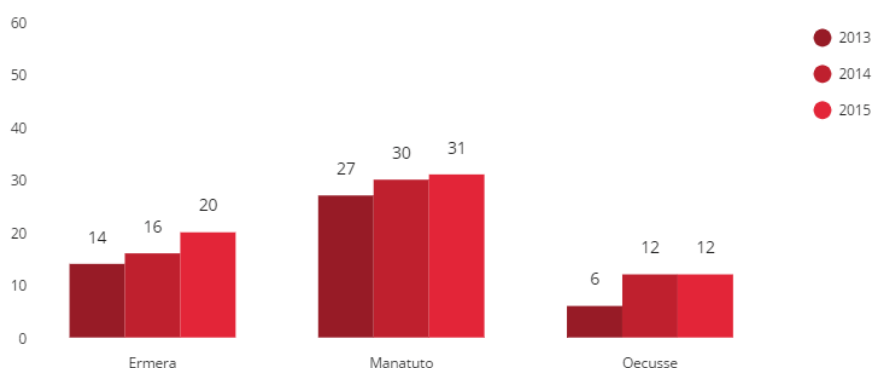
A systematic process for supporting pregnant women and their families to prepare for safe motherhood was introduced by the MOH with the assistance of HIP. Between March 2014 and July 2015, 247 community leaders, 165 PSFs, and 35 health facility staff received orientation on the *Community Tracking Tools for Safe Motherhood* and used them in their *sucos* and health facilities to track the services being received by pregnant women and children under one. The *suco* leaders who participated in this process recommended that it be expanded to all other *sucos*.

A birth preparedness and complication readiness plan template developed by HIP was incorporated into the LISIO (*Livrinhu Saúde Inan ho Oan* or Mother and Child Health Book) by MOH.

Increase in Institutional Deliveries

Infrastructure improvements became an integral part of the implementation of health action plans. In a number of documented cases, *suco* councils decided to prioritize improvements to the health facilities in order to increase the usage and benefits of health services. Facility improvements and increased demand have led to steady growth in institutional delivery.

Percentage of Deliveries in Health Institutions in HIP-Supported Regions



CHALLENGES

As *suco* chiefs are responsible for providing leadership across all levels of community life, the demands on their time are many and they tend to prioritize investment in activities that return immediate benefits. Their role in the health action planning process is critical but many activities designed to increase coverage remain unfunded, therefore the most significant challenge is securing resources to match demand. The MOH is responding to this challenge by developing guidelines that align inter-sectoral planning and funding processes from the MOH and MSA from the national to the administrative post levels. This will ensure that *sucos* are in the best position to obtain and use funding from all available sources.

NEXT STEPS

Collaboration between national, municipality, CHC, and *suco* councils served as a critical building block for planning and obtaining health improvement results, both in terms of community mobilization (an increase in access and coverage) and quality improvement (through renovations and extensions to health facilities). Moving forward, implementation of health action plans with community leaders is essential to ensure that underserved communities have evidence-based arguments to maximize their share of limited resources. Continued implementation of health action plans is a sustainable means of providing health education to *suco* leaders and in turn to their communities. The tools and education materials that HIP developed and used to support the MOH in the training of community leaders and health staff will continue to be essential for building individual and institutional capacity.

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Annex 9: Reinforcing SISCa organization/management processes

Reinforcing SISCa organization/management processes

To make HIP's role at the SISCa effective, there needs to be consensus among the many SISCa players—HIP, CHC and HP staff, *suco* and *aldeia* chiefs, PSFs—on how best to organize and manage the SISCas. This was well documented in the original concept papers from MOH but practices have tended to vary and there is now a need to reinforce the basic rules of conduct.

To that end, we have developed the following 'ideal' description of a SISCa consisting of 19 steps, which go well beyond just HIP's role:

Before SISCa day

1. CHC to liaise with HIP monthly on any transport requirements for SISCas and confirm those requirements no later than the Monday of the week for which the SISCa is scheduled.
2. CHC to confirm minimum of two days in advance with *suco* chief that this week's scheduled SISCa will take place.
3. *Suco* chief to alert PSFs that scheduled SISCa is confirmed as soon as confirmation from CHC is received.
4. PSFs to conduct calls on their assigned households 24 hours in advance to inform them that the scheduled SISCa will be held and its location.
5. CHC staff to prepare on the previous day the SISCa box/bags with the necessary equipment and supplies according to Table 4 above.

On SISCa day, before clients arrive

6. *Suco* chief (and possibly *aldeia* chief) to ensure there are six tables at the SISCa site, with at least two chairs per table; each table to be clearly identified with a number 1 through 6.
7. *Suco* chief to designate a waiting area close to Table 1, preferably with enough chairs to accommodate expected client flow, and to assign one PSF to greet and marshal arriving clients.
8. CHC staff to determine how each table is to be staffed in the light of available CHC/HP staff and PSFs. CHC staff may request qualified HIP/SGP staff to fill any gaps.
9. *Suco* chief to review with each PSF their household-level RSF registers and have them mark which clients are due or overdue for services (and are therefore expected at today's SISCa).

On SISCa day, once clients start to arrive

10. At Table 1, at least one PSF to receive all attendees and:
 - listen to why they have come;
 - verify that they have some identity documentation with them;
 - ask appropriate questions and conduct appropriate observation to ensure no service opportunities are missed;

- explain which tables they should attend;
 - depending on how HMIS is to be handled in future, fill in the General Register.
11. At Table 2, CHC or HP staff will provide nutrition services:
- monitor/record growth and weight for U5s and their mothers;
 - provide micronutrient supplementation;
 - follow steps in MOH's Community-based Management of Acute Malnutrition supportive supervision checklist for those identified as acutely malnourished;
 - provide supplementary food package and counseling on its use to mothers of under-nourished U5s from qualifying poor families;
 - provide counseling on identifying nutritious foods;
 - refer clients with other curative care needs or infectious disease symptoms to Table 5;
 - make note of clients for targeted PSF follow-up on urgent nutrition needs;
 - update LISIOs for those receiving services;
 - complete Nutrition Register to identify all services given to each client *[unless registers replaced with clinic cards]*.
12. At Table 3, CHC or HP staff will provide MCH services as indicated:
- provide ANC and PNC services and BCC advice from the BSP (MDG 5), and follow the ANC and PNC steps in the MOH Safe Motherhood supportive supervision checklist;
 - provide FP services from the BSP (MDG 5), and follow counseling steps in the Child Spacing and Family Planning supportive supervision checklist;
 - provide immunization and out-patient services and BCC advice from the BSP (MDG 4), follow all steps in the MOH Essential Newborn Care supportive supervision checklist, and follow ORT and consultation observation steps in the IMCI supportive supervision checklist;
 - refer clients with other curative care needs or infectious disease symptoms to Table 5;
 - make note of clients for targeted PSF follow-up on urgent MCH needs;
 - update LISIOs for those receiving services;
 - complete the four service registers to identify all services given to each client *[unless registers replaced with clinic cards]*.
13. At Table 4, CHC or HP staff will provide environmental health and personal hygiene services:
- cut finger and toe nails and counsel on how to do this regularly;
 - wash hands and feet as necessary and counsel on how to do this regularly, especially hand-washing with soap;
 - counsel on use of safe water, latrines and disposal of feces;
 - counsel on good care of eyes and teeth;
 - refer clients with curative care needs or infectious disease symptoms to Table 5;
 - make note of clients for targeted PSF follow-up on basic sanitation and hygiene;
 - complete service register to identify all services given to each client *[this is currently not done because there is no register for Table 4 services; may be replaced by clinic cards]*.
14. At Table 5, CHC or HP staff will provide curative services:
- provide out-patient services from the BSP (MDG 6);

- provide non-MDG services from the BSP (or refer, as necessary, to HP or CHC);
- refer clients to CHC for pathology tests, as necessary;
- complete the two service registers to identify relevant services given to each client *[unless registers replaced with clinic cards; note that non-malaria or TB services are apparently unrecorded today]*.

15. From Table 6, CHC/HP staff or PSFs will conduct BCC group meetings to the clients in the waiting area. The same talk will be given once per hour, according to client flow. Topics will conform to the MOH monthly priorities for the year. BCC materials should be provided at the end of each meeting.

On SISCa day, after last clients have left

16. PSFs to compare service registers from each table with household-level RSF registers to identify overdue/missing clients for follow-up and possible referral to HP/CHC.
17. PSFs to transfer notes from service registers to ‘observation’ column of household-level RSF registers regarding households needing urgent service follow-up.
18. *Suco* chief to record total client volume for the day for comparison with targets.

After SISCa day

19. CHC/HP staff to transfer SISCa client volume, by service provided, from the service registers to an HMIS data entry sheet.

Among these 19 steps, step 7 is new. At present, there does not generally seem to be a designated waiting area for clients and this is one cause of the poor client flow through the SISCa. Where space allows, such an area should be designated and preferably provided with chairs or benches. Designating one PSF to greet and marshal clients as they arrive at the SISCa would also be an innovation; the PSF should then call clients to Table 1 one at a time so as to improve privacy and reduce crowding. Note that, in step 8, we allow for HIP staff to continue providing services if necessary—but this should only be done if there are insufficient government staff on hand.

Step 9 is also new and aims to engage *suco* chiefs and PSFs more closely in thinking about the market they serve. There is space on the RSF household registers for ‘observations’ against each family member’s name: a simple red dot or mark would suffice to draw attention to clients who appear due or overdue for service.

Steps 10-14 elaborate what should happen at each SISCa table. Step 10 (SISCa Table 1) proposes a revised list of activities: less on filling in the General Register of services and more on trying to establish why a client has come to the SISCa, looking for potentially missed service opportunities and much more attention to triage. At Tables 2-4, service providers need to be more aware of the need to look for curative care needs and refer clients to Table 5 accordingly. At Tables 2-5, urgent post-SISCa follow-up needs should be identified more comprehensively, to help PSFs plan their post-SISCa activities.

Step 15 is new and aims to dilute the ‘table’ mentality where health promotion is concerned and, instead, encourage PSFs to conduct health promotion activities in the SISCa waiting area – where there is a stationary, captive audience. Steps 16-18 are also new. Steps 16 and 17 aim to help fill in the PSFs’ work plan for the next month by identifying follow-up needs and recording them on the RSFs. Step 18 encourages the *suco* chief to monitor client volume at the SISCa, so that he can be more proactive in evaluating the value of the SISCa to his community.

Annex 10: Technical Brief: Increasing Quality of, Access to and Use of Family Planning Services through Engagement Across the Health System and in the Community

Timor-Leste Health Improvement Project

Increasing Quality of ,Access to and Use of Family Planning Services through Engagement Across the Health System and in the Community

The United States Agency for International Development (USAID) supports the **Health Improvement Project, known locally as HADIAK**, as part of the overall United States Government package of assistance to Timor-Leste. HADIAK is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), district level (district health services—DHS), sub-district level (community health centers—CHCs), and community level (health posts—HPs and integrated community health services—SISCa) to benefit health workers and communities through mentoring, training, systems support and health promotion. Implementation focuses on the districts of Ermera, Manatuto, and Oecusse.

INTRODUCTION A woman's ability to control the timing and number of pregnancies she will have during her lifetime directly impacts her health and the health of her children, and birth spacing can contribute to reducing maternal mortality by 25-40%. At 5.7 births per woman, Timor-Leste has one of the highest fertility rates in the world. At 557 deaths per 100,000 live births, Timor-Leste also has one of the highest maternal mortality ratios in the Southeast Asia Region. Though contraceptive prevalence in Timor-Leste tripled since 2003, in 2010 only 21% of married women of reproductive age used a modern method of birth control, while 31% had unmet FP needs. Similarly, under-5 mortality at 64 per 1000 live births is comparatively high for the region and an increase of the birth interval from <2 years to 3 years would almost double Timorese children's chances of survival.

Low awareness of modern family planning (FP) methods among women, large desired family size, and low access to FP services contribute to a high number of unplanned pregnancies in Timor-Leste. Overstretched human resources and poor strategic positioning of the existing resources have resulted in a lack of service availability; in 2010, the Ministry of Health (MOH) had only 30 certified FP midwife trainers who were responsible for management of health centers and maternal, newborn and child health (MNCH) services for the whole country. Quality of care is a major deterrent to care seeking, and lack of access to supplies and equipment for FP further discourage FP use. Simultaneously, the 2009-2010 Timor-Leste Demographic and Health Survey (TLDHS) estimated unmet need for FP services to be 31% among married women of reproductive age. In spite of the noted obstacles, the contraceptive prevalence rate (CPR) rose from 7% to 21% in the seven years from 2003-2010 (TLDHS).

APPROACH

The USAID | Health Improvement Project sought to improve a number of key indicators related to FP in targeted districts, including increasing couple years of protection (CYP), increasing new acceptors of modern contraceptive methods, increasing the number of service delivery points (SDPs) that offer FP services including counselling and long-acting methods, improving the quality of offered services, and reducing the number of stock outs of contraceptive commodities at health facilities in three target districts: Ermera, Manatuto, and Oecusse. To achieve these objectives, HIP has supported the MOH to:

- Increase community engagement and demand for FP at the community level;
- Increase the number of health providers qualified to provide FP counseling and clinical services; and
- Build the capacity of health facilities at every level—health posts (HPs), community health centers (CHCs), and hospitals—to provide high quality FP services and contraceptive commodities.

KEY ACTIVITIES

- **Competency-based training:** HIP coordinated training of trainers for National FP Facilitators using the revised MOH and National Training Institute (INS) curriculum. The MOH with HIP identified facilities within target districts that lacked personnel trained in FP counseling and the insertion of intrauterine devices (IUDs) and implants, and coordinated training of doctors, nurses, and midwives with the INS. The six-day training curriculum included three days of classroom training using revised materials and three days of practical training in a clinical setting. HIP coordinated refresher trainings for an additional 26 doctors, nurses, and midwives from the three districts to ensure their competency in insertion of IUDs and implants.
- **Availability of long-acting methods through post-training follow-up:** Completion of training in FP requires trainees to perform IUD and implant insertions on five patients under the supervision of trainers but often, due to lack of patients, trainees did not receive certification within the six-day course and required follow-up after training (FUAT) to ensure competency. At the end of each training course, HIP developed action plans to provide FUAT to trainees at their respective health facilities that had not received certification. HIP supported FP FUATs conducted by INS for 102 midwives using an updated standard tool to assess trainee competency.
- **Site-level supportive supervision as part of ongoing efforts to improve the quality of services in HIP's target districts:** Personnel at facilities were assessed by MOH supervisors in four key services delivery areas, including FP. Based on assessment scores, HIP, MOH supervisors, and facility personnel developed plans to improve low-scoring components. Between March 2012 and August 2015, HIP facilitated 178 FP supportive supervisions with the MOH across the three target districts.
- **Refresher training on Logistics Management Information System (LMIS):** LMIS officers across all three districts were supported by HIP to complete refresher training for 70 health facility personnel to help prevent stock outs of contraceptive commodities. In addition, one Quality Improvement Collaborative on LMIS was supported in Ermera.
- **Directly engaging with communities:** HIP worked with district health services to conduct 24 advocacy events with community leadership at the sub-district and suco (village) levels. Advocacy meetings included presentation of current FP situation, description of FP methods, and the distribution of health promotion materials before an interactive discussion on how to improve FP. Action planning for FP service improvement followed. HIP also organized women-only focus group discussions following Integrated Services for Community Health (SISCa) events and other MOH-facilitated community events to offer women the opportunity to learn about FP methods, share their experiences, and ask reproductive health-related questions. Participants who elected to receive contraceptive methods following the discussion were linked to services by the discussion facilitator.

RESULTS

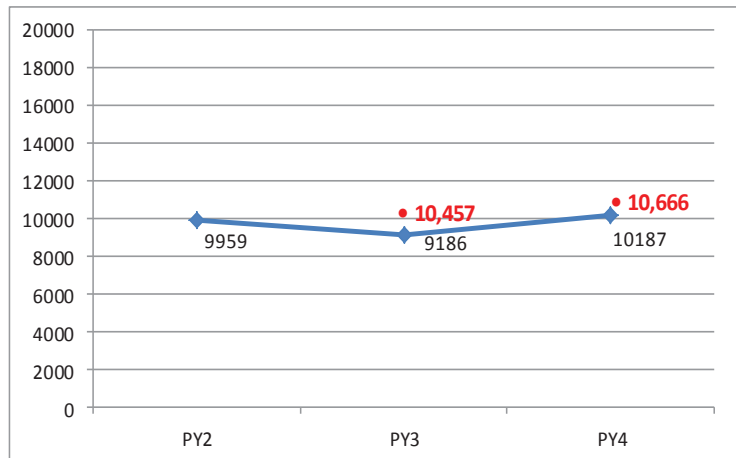
Quality of Services: The average score on the supportive supervision tool increased from 57% to 87%. Areas where most improvements were noted include the availability of FP counseling at the facility, the availability of IEC materials (both posters as well as materials for distribution to clients), the use of a flip chart during FP consultations, the quality of FP records and of the LMIS, the availability of essential commodities, the adherence to infection prevention requirements, and the percentage of clients who are counseled about the recommended birth interval.

Commodity availability is an important aspect of quality as well, and HIP saw impressive gains in contraceptive availability over the course of the last 3 years of the project in Manatuto and Ermera. By the end of the fourth year, the six methods were available in all clinics most of the time. (In Oecusse, contraceptive availability was often compromised and limited to 3 or 4 methods per clinic, partially due to MOH reliance on ferry transport to deliver products.)

Increased use of modern FP methods: Steadily rising use of modern methods as represented in rising CYP from the three HIP districts is shown in Figure 1.

HIP support to a variety of elements of the MOH FP program led to these increases; these include the Key Activities described in the prior page as well as intermediate outcomes such as increased provider competency. During the life of the project, 47 MOH staff received FP training and 28 staff received FP refresher training. The average pre- and post-training test results for trained providers rose from 54% to 91%. Annual FP counseling sessions rose from about 17,000 in 2012 to more than 22,000 in 2015.

Figure 1: Increase in CYP between 2013 and 2015 in Three HIP Districts



Focus on Convenient Services: In late 2014, HIP began to provide access to services immediately after women's focus group discussions or within a few days, instead of assuming that women would be able to access services easily in more rural areas. The results of this convenience were surprising, with acceptance rates among participants of 29% (Manatuto), 43% (Oecusse) and 50% (Ermera). 80% of these women selected long-acting methods.

CHALLENGES

A persistent challenge in increasing the number of practitioners competent in implant and IUD insertion was a lack of clients on whom trainees could practice during training and FUAT in order to earn their certification. This is especially important as demand for each of these methods is growing. In addition to limitations related to provider competency, the need for improved supply chain for contraceptives in Oecusse, and attention to maintaining privacy for both counseling and service delivery remains a challenge as does consistent attention to infection prevention and FP related record-keeping.

NEXT STEPS

While significant progress has been made, much remains to be done to address high and potentially growing unmet demand. To further improve the quality of FP services in Timor-Leste, it is important to make use of available data. Supportive supervision results need to be analyzed and common problems addressed. Problems are commonly identified in the following areas: following infection prevention requirements, availability of all commodities, availability of hand washing facilities, availability of IEC materials for clients, availability of complete FP kit, the quality of the LMIS, and proper screening of clients. These areas would benefit from more attention during FP training and supervisory activities. Supervising staff should also look at the proportion of FP clients who return on time for follow-up. This percentage is commonly low and is often indicative of quality problems in FP services including limited access. The follow-up date or the importance of timely follow-up might not be clear to clients. The importance of timely requests for FP commodities remains a relative weakness at facility level. While stock-outs at the district level are comparatively uncommon, stock-outs at facility level remain all too common. Programmatically, the foundation for a sustainable FP program would include the integration of FP within a suite of MNCH services; this should be considered in MOH planning and program implementation. Finally, the large and growing population of Timorese young people need and deserve access to FP services, and it is essential to plan for the reproductive health needs of this growing segment of the population now.

Improving Services, Expanding Access to Methods

Miranda Da Costa, 23, sits on the examination table, chatting amiably with the midwife. They talk about their families; Miranda smiles broadly as she shares stories about her two-month-old son, the youngest of three children. She has come to the Cribas Health Post to receive a Norplant™ long-acting contraceptive implant because she wants to wait until her youngest is older before adding to her family. It's her first time using a family planning method. In the adjacent room, several women are seated, each cradling an infant, waiting for their turn.

Cribas is a farming community in the steep hills of Manatuto District, Timor Leste. Two days earlier, these women had joined dozens of other families at the monthly SISCa integrated outreach clinic in the village, where the Health Improvement Project (HIP) supports the Ministry of Health to offer basic health services. There, they elected to participate in a discussion organized by the health post about family planning options, led by a certified midwife. The conversation soon became lively as the women began sharing their stories. Four used a monthly injectable for contraception, but often forgot to get it refilled on time; as a result, one woman had gotten pregnant; several had never used modern contraception. Along with health, reproductive, and family issues, the midwife emphasized the importance of mothers having lives beyond caring for young children.

After the discussion, 12 women decided to switch to a long-acting birth control method. The midwife made appointments for them at the health post to get the implant, a contraceptive with up to five years effectiveness at preventing pregnancy. Among them was Luciana, a 25-year-old mother who had never used a modern form of contraception. Luciana has four boys, ages six, four, one, and four months, but has been pregnant seven times; she has had three miscarriages. Because of her difficult pregnancies, she decided, with her husband, parents, and in-laws, not to have any more children.

HIP has worked with Cribas Health Post to improve delivery of services, including FP, by supporting MOH to train midwives, provide supportive supervision to ensure improved and continued quality of services, and oversee improvements to facility infrastructure. Today, Luciana waits patiently with the other women for their implants. As a result of these coordinated efforts at the community and facility levels, these mothers will receive the family planning services they want, from a trained clinician in a clean and well-equipped facility near their homes.

After their procedures, Miranda and Luciana smile, sporting the white bandages that cover their new contraceptive implants, and reassuring the others that the process was quick and painless. They leave the health post together, each carrying a sleeping baby, and make their way up the road, back to their families.



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Annex 11: HIP's monitoring report on annual basis

The indicators used in the monitoring and evaluation (M&E) plan underwent several changes during the course of the four years of the project. A baseline survey was originally planned in collaboration with the Work Bank and Global Fund to be used as baseline and help establish subsequent targets. However, the planned survey was not able to be materialized due to delays in the MOH approval process and changed priorities among the collaborating partners. Through ongoing discussion and feedback from USAID, it was determined that HIP was only required to report results for each fiscal year as it relates to the target for that same fiscal year.

Second, due to definitions initially established for several of the indicators at the start of the project, several unrealistic targets were initially established. These were remedied during the contract modifications after the second year of the project. Additionally, as negotiations for the M&E plan were finalized at the end of the first year of the project, a minor modification was made to the indicator list by dropping one indicator.

Third, under the contract revisions prior to the start of project year 3 a new set of project indicators was defined, which include seven operational indicators the project previously reported and six additional indicators. When selecting indicators, efforts were made to streamline and minimize the burden of data collection and reporting. The reduction of project target areas from five municipalities to three was also taken into consideration is the establishment of targets.

In order to provide some clarity with the changes undergone by the M&E plan during the project, the *Project Monitoring Report* is presented in several key tables. First, the indicator achievements in project years 3 and 4 are presented in a single table to focus on the latter years of the project under a unified and consistent performance monitoring plan (Table 1). Second, the targets achieved for the dropped indicators from project years 1 and 2 are provided in a second table (Table 2). Third, the indicator definition and data collection caveats in provided in a third table (Table 3).

In the first table reflecting the Performance Monitoring Report for project years 3 and 4, please note that both project years reflect the three municipalities of project implementation (Ermera, Manatuto, and Oecusse) and project year four reflects only 11 months of actual activity implementation.

Table 1: Performance Monitoring Report Project Years 3 and 4 (October 2013 – August 2015)

Table 1.1.3: Performance Monitoring Report: Project Years 3 and 4 (October 2013 – August 2015)			
ID #	Indicator	Project Year 3	Project Year 4
		Oct 2013 – Sept 2014	Oct 2014 – Aug 2015
MATERNAL AND CHILD HEALTH			
1	Percent of skilled deliveries at health facilities in targeted areas.	16% (n=1,604)	22% (n=1,938)
2	Percent (number) of pregnant women receiving at least 4 antenatal care (ANC) checks.	46% (n=4,889)	53% (n=4,722)
3	Number of children less than 12 months of age receiving DPT3 in HIP supported districts. (3.1.6-61)	7,583	6,909
FAMILY PLANNING			
4	Percent of USG-assisted service delivery points (SDPs) providing family planning (FP) counseling and/or services.	100% (n=16)	100% (n=16)
5	Couple years of protection (CYPs) in USG-supported programs.	9,186	9,338

6	Number of acceptors to modern contraception in target districts.	4,028	3,845
INSTITUTIONAL STRENGTHENING			
7	Percent of health facilities that achieve or maintain at least 75% of BSP standards according to MOH checklist.	100% (15 of 15 facilities targeted)	100% (15 of 15 facilities targeted)
8	Number of sub-national entities receiving USG-assistance that improves their performance.	57	47
9	Number of supervision visits to service delivery points (SDPs).	291	220
10	Percent of USG-assisted service delivery points (SDPs) experiencing a stock out at any time during the reporting period of a contraceptive method that the SDP is expected to provide.	11% (aggregate)	11% (aggregate)
11	Number of annual Suco level implementation plans developed using data.	8	7
12	Number of trainees of MOH training who have been contacted for follow-up through supportive supervision.	44	73
13	Number of medical and paramedical practitioners trained in evidence-based clinical guidelines.	376	470
	<i>Number of women</i>	264	239
	<i>Number of men</i>	112	231

The second table provides indicator achievements for indicators utilized in project years 1 and 2 (with operation in five municipalities), but subsequently dropped or modified at the start of project year 3 with the contract modifications. If an indicator was carried through to project year 3 and 4, it is not included here, with the understanding that set targets were appropriately modified due to the reduction in project area. Note that in during the 3 months of project start up in project year 1, values were estimated for those three months based on the subsequent 9 months of actual activities. Also note that for some indicators, it was anticipated a value would be collected as part of the baseline survey that did not materialize and were therefore not required, as they were often not available through other regularly collected information through the MOH HMIS at that time.

Table 2: Dropped Indicators from Project Years 1 and 2

Table 2: Dropped Indicators from Project Years 1 and 2			
ID #	Indicator	Project Year 1	Project Year 2
		Oct 2013 – Sept 2014	Oct 2014 – Aug 2015
MATERNAL AND CHILD HEALTH			
1	Number of skilled deliveries at health facilities in targeted areas.	Not Required	6,709
2	Number of people trained in maternal/newborn health through USG supported programs.	3,722	4,021
	Number of women	1,794	1,703
	Number of men	1,928	2,318
3	Number of people trained in child health and nutrition through USG-supported health care programs.	1,374	3,995
	Number of women	570	1,690
	Number of men	804	1,690
4	Number of cases of children reached by USG-	81,880	Dropped

	supported nutrition programs. ³¹		
5	Number of cases of child pneumonia treated with antibiotics by trained facility or community health workers (CHWs) in USG-supported programs.	6,399	5,980
6	Number of child diarrhea cases treated in HIP-supported districts.	5,431	5,908
7	Number of children under 5 years of age who received vitamin A in HIP-targeted districts during the reporting period.	44,462	70,596
FAMILY PLANNING			
8	Number of USG-assisted service delivery points (SDPs) providing family planning (FP) counseling or services.	179	178
9	Number of people trained in FP/RH with USG funds.	1,996	2,052
	<i>Number of women</i>	836	1,031
	<i>Number of men</i>	1,160	1,021
10	Number of counseling visits for family planning/reproductive health as a result of USG assistance.	60,627	29,081
11	Number of people that have seen or heard a specific USG supported FP/RH message.	34,072	35,146
INSTITUTIONAL STRENGTHENING			
12	Percent of health facilities in HIP supported districts meeting Basic Package standards (in MNCH and FP).	<i>Required but data not available</i>	<i>Required but data not available</i>
13	Percent of USG-assisted service delivery points (SDPs) experiencing a stock out at any time during the reporting period of a contraceptive method, vaccine, and oxytocin.	<i>Not Required</i>	<i>Required but data not available</i>
14	Percent of SISCa functioning according to established standards.	<i>Required but data not available</i>	<i>Required but data not available</i>
15	Number of people trained in monitoring and evaluation with USG assistance.	741	499
	<i>Number of women</i>	308	193
	<i>Number of men</i>	433	306
16	Number of people trained in strategic information management with USG assistance.	1,200	1,517
	<i>Number of women</i>	464	578
	<i>Number of men</i>	736	939
17	Number of Sucos and communities in USAID supported areas involved in the management of health care services.	674	N/A
18	Number of Suco Councils in USAID supported areas involved in the management of SISCa in the reporting period.	<i>Not Required</i>	55

The third table provides indicator definitions and data collection/source caveats or issues related to inclusion or exclusion in the project years for all indicators included during the four project years.

³¹ This indicator was dropped as USAID support for nutrition activities was discreet and finite and limited to the first two years of the project.

Table 3: Indicator definitions and data caveats

ID #	Indicator	Relevant Definitions	Data Collection Caveats
MATERNAL AND CHILD HEALTH			
1	Percent (number) of skilled deliveries at health facilities in targeted areas.	Number of births attended by skilled personnel at health facilities (institutions)/Total # of live births occurring within the reference period (x100).	<p>This indicator was originally captured under the project “Outcome and Impact Indicators” of the <i>Project Monitoring & Evaluation Plan</i> developed in PY1 and therefore was not required to be reported in PY1.</p> <p>PY1 & PY2, the captures BOTH institutional births AND home deliveries for the five project locations for all HPs, CHCs, and hospitals within project municipalities.</p> <p>Due to contract modifications for PY3 & PY4, the definition of the indicator was changed to ONLY capture facility-based deliveries in HPs, CHCs, and hospitals within the three project municipalities.</p> <p>In PY3, the denominator used for the number of live births was acquired from the <i>2013 MOH Census Projections</i>. In PY4, the denominator was drawn from the <i>2014 MOH Census Projections</i> and adjusted to represent 11 months of project implementation.</p>
2	Percent (number) of pregnant women receiving at least 4 antenatal care (ANC) checks.	Number of pregnant women receiving at least 4 ANC visits during the reporting period/Total number of pregnant women during the reporting period (x100).	<p>This indicator was not a USAID required indicator during those project years. This indicator was required with contract modifications starting with in PY3.</p> <p>In PY3, the denominator used for the number of pregnant women in the 3 project locations was acquired from the <i>2013 MOH Census Projections</i>. In PY4, the denominator was drawn from the <i>2014 MOH Census Projections</i> and adjusted to represent 11 months of project implementation.</p>
3	Number of children less than 12 months of age receiving DPT3 in HIP supported districts. (3.1.6-61)	Number of children less than 12 months of age receiving DPT3.	The project coverage area was reduced from 5 to 3 locations starting in PY3.
5	Number of people trained in maternal/newborn	Number of people trained in maternal/newborn health.	During the development of indicator definitions, the project was advised by USAID to include all formal training as

	health through USG supported programs.		<p>well as informal meetings and other forums where the indicator topic was discussed. This definition for training was relevant for PY1 & PY2 but was changed during the contract modifications starting in PY3 to include formal training ONLY.</p> <p>All separate training indicators from PY1 and PY2 were incorporated for PY3 and PY4 into a single training indicator. Their separate values are provided in Table 2.</p> <p>Definition of what constituted training was also modified at the start of PY3 to only include formal training with MOH-approved curriculums.</p>
6	Number of people trained in child health and nutrition through USG-supported health care programs.	Number of people trained in child health and nutrition.	See explanation in #5 (above).
7	Number of cases of children reached by USG-supported nutrition programs.	Number of cases of children reached by USG-supported nutrition programs.	<p>During contract modifications for PY3, the focus of activities was 50% FP and 50% MNCH; therefore it was felt that 5 child health- related indicators were not needed and instead focused on 1 child health indicator that was best in synergy with the scope of activities.</p> <p>For PY1, achievements are inclusive of children receiving growth monitoring services; exclusive of children receiving vitamin A.</p>
8	Number of cases of child pneumonia treated with antibiotics by trained facility or community health workers (CHWs) in USG-supported programs.	Number of cases of child pneumonia treated with antibiotics.	<p>See explanation in #5 (above).for detailed explanation on child health indicators.</p> <p>Indicator data in PY1 & PY2 includes cases of pneumonia, severe pneumonia, and very severe pneumonia cases treated at the health facilities and collected by the HMIS.</p>
9	Number of child diarrhea cases treated in HIP-supported districts.	Number of child diarrhea cases treated.	<p>See explanation in #5 (above).for detailed explanation on child health indicators.</p> <p>In PY1 & PY2, indicator data includes only diarrhea cases (and excludes those classified as dysentery cases) treated at health facilities).</p>
10	Number of children under 5 years of age who received vitamin A in HIP-targeted		See explanation in #5 (above).for detailed explanation on child health indicators.

	districts during the reporting period.		<p>It was anticipated that a Health Facility Survey (HFS) was to be conducted in project year one and baseline values for this indicator would be acquired through the HFS; this survey did not take place.</p> <p>There were also significant increases in Vitamin A distribution in February and August 2013 across all project districts due to immunization campaigns.</p>
FAMILY PLANNING			
11	Number (percent) of USG-assisted service delivery points (SDPs) providing family planning (FP) counseling or services.	Number of SDPs providing FP counseling and/or services/Total number of facilities (x100)	<p>The indicator definition was modified starting on PY3 with contract modifications. The indicator represents the number of CHCs provided FP counseling (measured by FP counseling visits as captured by the HMIS) and/or services (measured by stock availability of any FP method as captured by the HMIS) each month during the year.</p> <p>Note that the HMIS aggregates HP and CHC data for monthly reports and it is not possible to disaggregate the information.</p>
12	Couple years of protection (CYP) in USG-supported programs.	CYPs is the estimated projection provided by family planning services during a one-year period based upon the volume of all contraceptives provided to clients during the period.	Indicator data for PY1 erroneously recorded vasectomies not in the HMIS database. This inflated PY1 achievements (actual and estimated) created a higher target for PY2.
13	Number of acceptors to modern contraception in target districts.	Number of acceptors to modern contraception.	<p>This indicator was being tracked internally during PY1 & PY2 but was not a required/reportable indicator.</p> <p>During the contract modifications for PY3 the indicator was required by USAID.</p>
14	Number of people trained in FP/RH with USG funds.	Number of people trained in FP/RH.	All separate training indicators from PY1 & PY2 were incorporated into a single training indicator in PY3 & PY4.
15	Number of counseling visits for family planning/reproductive health as a result of USG assistance.		The HMIS adjusted the criteria for counting FP/RH visits between PY1 & PY2. In PY1, the HMIS considered all participants present at group talks as having received a FP/RH counseling visit. In PY2, the HMIS adjusted the criteria to more accurately reflect true counseling visits, excluding those present at group talks. This provides explanation for shifts in indicator data from PY2 onwards.
16	Number of people that have seen or heard a specific USG	Number of people that have seen or heard a specific FP/RH message.	This indicator was dropped in PY3 & PY4.

	supported FP/RH message.		
17	Number of trained providers who have completed competency checks for all methods.	Number of trained providers who have completed competency checks for all methods	<p>At the start of the project, the MOH was still in the process of updating and finalizing the tools and guidelines to be used for competency checks; therefore data was not collected in PY1. The MOH did not complete this process during PY2, therefore data was not able to be obtained.</p> <p>The content of this indicator (checking competency) was considered to be captured under the <i>Institutional Strengthening</i> indicators, which captured the number of people targeted for follow-up after training (FUAT). Therefore this indicator was dropped during contract modifications.</p>
INSTITUTIONAL STRENGTHENING			
18	<p>Percent of health facilities in HIP supported districts meeting Basic Package standards (in MNCH and FP). (PY1 & PY2)</p> <p>Percent of health facilities that achieve or maintain at least 75% of BSP standards according to MOH checklist. (PY3 & PY4)</p>	Number of facilities that achieve and/or maintain at least 75% on the Facility Readiness Format/Total number of facilities assessed (x 100)	<p>See explanation in #10 (above) for a discussion of the planned survey.</p> <p>The MOH Checklist refers to the <i>Facility Readiness Format (FRF)</i> developed by the MOH and available by the start of PY3. For PY3 & PY4, indicator targets are adjusted yearly as the project is only targeting a certain number of facilities per year, in part depending on needs and agreements with partnerships to complete renovations and other facility improvements.</p>
19	Number of sub-national entities receiving USG-assistance that improves their performance.	Number of sub-national entities receiving USG-assistance that improves their performance.	Improving performance is measured by the microplan and microplan meeting process held by Community Health Centers (CHCs).
20	Number of supervision visits to service delivery points (SDPs).	Number of supervision visits to service delivery points (SDPs).	<p>Indicator data represents only SS visits related to the project focal areas, which includes: (1) Safe Motherhood; (2) Expanded Program on Immunizations (EPI); (3) Family Planning; (4) Nutrition; (5) Integrated Management of Childhood Illnesses (IMCI); (6) HMIS; and (7) Basic Service Package.</p> <p>With the budget reductions and contract modifications required by USAID starting in PY3, the data to be captured under this indicator only include the following types of supervision visits:</p>

			(1) Safe Motherhood/Newborn Care; (2) Family Planning; (3) Integrated Management of Childhood Illnesses (IMCI); (4) Basic Emergency Obstetric Care (BEmOC); (5) Basic Service Package (BSP) checklist (referred to as the <i>Facility Readiness Format</i> checklist).
21	Percent of USG-assisted service delivery points (SDPs) experiencing a stock out at any time during the reporting period of a contraceptive method, vaccine, and oxytocin. (PY1 & PY2) Percent of USG-assisted service delivery points (SDPs) experiencing a stock out at any time during the reporting period of a contraceptive method that the SDP is expected to provide. (PY3 & PY4)	Number of facilities stocked out of a contraceptive/Total number of facilities assessed (x 100)	See explanation in #10 (above) for a discussion of the planned survey. The HMIS did not begin regularly collecting stock availability data until PY3 and only for contraceptives. The HMIS reports aggregated health post (HP) and community health center (CHC) data at the CHC level only. It is not possible to distinguish between HP and CHC facilities. A stock out indicates that the CHC and all its associated HPs were out of stock of at least one type of contraceptive method. It should be noted that the aggregate number provided is extremely diluted in terms of not knowing the type of method that was stocked out as well as how many facilities were stocked out.
22	Number of annual Suco level implementation plans developed using data.	Number of annual Suco level implementation plans developed using data.	
23	Number of trainees of MOH training who have been contacted for follow-up through supportive supervision.	Number of trainees of MOH training who have been contacted for follow-up after training (FIAT).	Trainees are considered those who attended MOH training in one of the following areas: Safe Motherhood, Essential newborn Care, Family Planning, Basic Emergency Obstetric Care.
24	Number of medical and paramedical practitioners trained in evidence-based clinical guidelines.	Number of medical and paramedical practitioners trained in evidence-based clinical guidelines.	Merged into one training indicator for PY3 & PY4.
25	Percent of <i>SISCa</i> functioning according to established standards.	Number of <i>SISCa</i> meeting established standards/Total number of <i>SISCa</i> assessed (x 100)	See explanation in #10 (above) for a discussion of the planned survey.
26	Number of people trained in monitoring and evaluation with USG assistance.	Number of people trained in monitoring and evaluation.	Merged into one training indicator for PY3 & PY4.
27	Number of people	Number of people trained in strategic	Merged into one training indicator for

	trained in strategic information management with USG assistance.	information management.	PY3 & PY4.
28	Number of <i>Sucos</i> and communities in USAID supported areas involved in the management of health care services.	Number of <i>Sucos</i> and communities in USAID supported areas involved in the management of health care services.	The wording and definitional qualifiers changed between PY1 & PY2 due to modifications discussed and agreed to between HIP and the COTR; this also provides explanation for the shift in indicator achievements.
29	Number of Suco Councils in USAID supported areas involved in the management of SISCa in the reporting period.	Number of Suco Councils in USAID supported areas involved in the management of SISCa in the reporting period.	Dropped in PY3 & PY4.

Annex 12: Technical Brief: Applying Research on the Three Delays to Reduce Preventable Maternal Death in Timor-Leste

Timor-Leste Health Improvement Project

Applying Research on the *Three Delays* to Reduce Preventable Maternal Death in Timor-Leste

The United States Agency for International Development (USAID) supports the **Health Improvement Project, known locally as HADIAK**, as part of the overall United States Government package of assistance to Timor-Leste. HADIAK is a technical assistance project supporting the Ministry of Health (MOH) in the areas of maternal, neonatal and child health (MNCH) and family planning (FP) programming. HADIAK's capacity building assistance is delivered at the national level (MOH), district level (district health services–DHS), sub-district level (community health centers–CHCs), and community level (health posts –HPs and integrated community health services–SISCa) to benefit health workers and communities through mentoring and training. Implementation focuses on the districts of Ermera, Manatuto, and Oecusse.

INTRODUCTION

Timor-Leste has one of the highest maternal mortality ratios in Southeast Asia, at 557 deaths per 100,000 live births. Approximately 78% of births take place at home, and only 30% of deliveries are performed by a skilled birth provider; nearly half of all births (49%) are attended by an untrained relative or another person. Timor-Leste's population is rural and the country's mountainous terrain and limited transportation infrastructure make accessing health facilities in the event of an obstetric emergency difficult.

Delays in timely medical intervention are the most significant contributors to global maternal mortality and morbidity. The *Three Delays Model* outlined by Thaddeus and Maine (1994) identifies the three phases where delays occur: 1) delay in the decision to seek care; 2) delay in arrival at a health facility; and 3) delay in the provision of adequate care. Myriad factors contribute to all three delays and vary within and between contexts. In Timor-Leste, there is limited information regarding the specific factors—particularly at the individual and community level—that influence delays.

APPROACH

The USAID | Health Improvement Project (HIP) collaborated with the Ministry of Health (MOH) and the National Institute for Health (INS) to design a mixed methods study, *Reducing the Burden of the Three Delays on Maternal Health in Timor-Leste: Results from a Mixed Methods Study on Individual- and Community-Level Factors Contributing to First and Second Delays in Ermera and Manatuto Municipalities and the Special Administrative Region of Oecusse Ambeno*, to examine birth preparedness and complication readiness factors contributing to the three delays within Timor-Leste.

The primary objectives of the study were to determine:

- Factors contributing to delays in recognizing an obstetric emergency and deciding to seek care among the individual and/or family (first delay);
- Factors contributing to delays in reaching an adequate health care facility (second delay); and
- Availability and mobilization of community resources to address the first two delays.

Planning for the study began in early 2014, with Institutional Review Board (IRB) approval, and included stakeholders from the MOH as well as local leadership, such as *suco* (village) and *aldeia* Chiefs, and other community members that contributed to study design and implementation. The study was carried out in the HIP-supported municipalities of Ermera and Manatuto, and the Special Administrative Region of Oecusse Ambeno from July-August 2014.

The quantitative component of the study included a cross-sectional survey among reproductive age women (15-49) who had been pregnant within the previous two years and their partners/spouses to examine birth preparedness and complication readiness at the household level. In all, 592 couples were surveyed; women and men were surveyed separately using a Women's Questionnaire and Men's Questionnaire. A Household Census was used to determine couples' eligibility to participate and to obtain basic housing/ household characteristics (sanitation facilities, drinking water, household effects, transportation).

The study's qualitative component included three sets of focus group discussions (FDGs) among male and female community leaders and traditional birth attendants (TBAs) to better understand the decision-making processes and resource barriers that contribute to the first two delays. In-depth interviews (IDIs) were conducted with women who had maternal and neonatal "near misses" (experienced an obstetric emergency, but survived), "near miss" spouses, family members involved in deliveries in which obstetric emergencies occurred, and midwives.

STUDY FINDINGS

The study provides data on respondent and household characteristics that may directly or indirectly influence contributing factors to delays, including respondents' educational status, ownership of durable goods and vehicles, and traditional and cultural beliefs.

- **Educational Status:** 30% of men and 41% of women have never attended school. 34% of men and 48% of women assess themselves as illiterate.
- **Ownership of Durable Goods:** 80% own cell phones, 22% own radios, 12% own TVs, 16% own motorcycles, and less than 1% own vehicles.
- **Traditional and Cultural Beliefs:** Discord within families was commonly considered a cause of obstetric complications; the family leader is often consulted for decision-making; common perception that medical treatment would be ineffective if discord within the family was not resolved.

First Delay: Key study findings related to the factors that contribute to delays in seeking care included:

59% of men and 43% of women knew at least 2 key danger signs during labor, one of the critical points during the childbearing stages when obstetric emergencies can occur. Approximately 71% of men and 80% of women thought that a woman can die during the problems they cited during labor. This indicates that they recognized some level of severity associated with the condition. Yet according to the qualitative results, the reason many people are not using facility-based care is due to a high reliance on traditional medicines. The results indicated that many people will turn to traditional forms of medicine and treatment first. 58% of men and 60% of women were aware of the concept of 'birth preparedness'; 33% of men and 17% of women had seen, read, or heard a BP message; and 31% of men and 30% of women were aware of community-provided transport services available to them.

Second Delay: Key study findings related to the factors that contribute to delays in reaching and adequate health care facility included:

Poor communication, transportation, and road conditions, long distances to reach health facilities, and financial constraints were identified as contributing factors to the delay in reaching care. 47% of men and 54% of women agreed that the difficulty of traveling to a health facility was a barrier. Approximate one-third of respondents reported living more than 30 minutes away from the nearest health facility, and 18% of respondents reported living 1-1.5 hours from a facility. Nearest facilities, however, were not necessarily facilities equipped to treat post-partum hemorrhage (PPH), requiring referral to a higher-level facility. Transcripts from the study's qualitative component suggest that people would prefer to use the ambulance or seek locally available traditional remedies rather than seeking expensive transport and care.

Third Delay

While the study was community rather than facility-based, some results from the mixed methods study provided valuable insight from the “user end” perspective regarding what barriers they may encounter. Lack of trained and skilled staff, limited availability of drugs, supplies, and blood for transfusions, and generally poor conditions at health facilities all contribute to delays in a patient receiving care once she has reached a health facility. Timor-Leste lacks a functioning blood donation system or blood bank, so if a woman has PPH, a donor must be located and brought to an equipped facility to have their blood type verified and

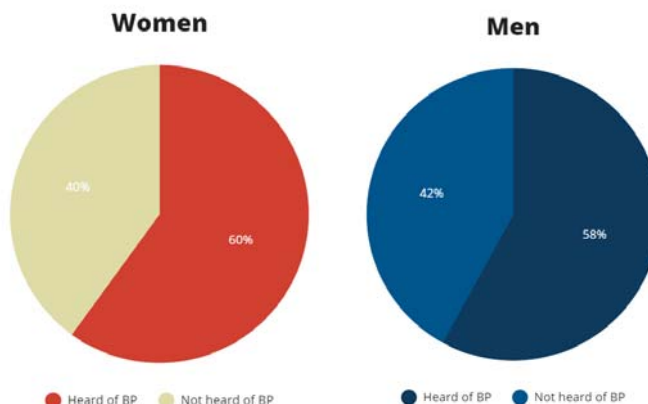
APPLICATION OF STUDY FINDINGS

The study results were presented to the MOH Council of Directors by the Head of the Maternal and Child Health Department, who later presented them in each of the Municipalities and Special Administrative Region where the study was conducted. At workshops held in Oecusse, Ermera and Manatuto, the major findings were discussed by participants including CHCs (manager, doctor and midwife), all HP doctors, Municipality and Administrative Post Administrators, Municipality Public Health Officers, *Suco* leaders, USAID, and partners. The workshop held in Oecusse was attended by the Regional Hospital Administrator and management team, Sub-Regional Administrators, and all other participants mentioned above. The MOH Director General attended the workshop in Ermera.

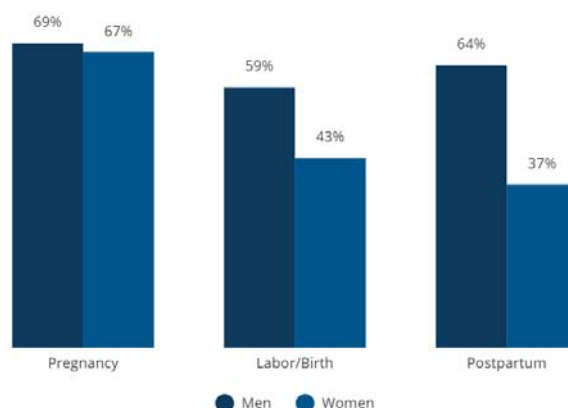
The purpose of the workshops was to present the results of the study and determine how to use them to address the factors causing delays in seeking, reaching, and receiving care. During the workshops, results of the Facility Readiness Assessments and coverage data of all technical programs were also presented. Participants therefore had a rich source of evidence for developing action plans at the CHC, HP, and community level. Seventy-four action plans for 16 CHCs, 59 HPs and 1 referral hospital supporting all *sucos* in the three locations were produced.

The actions determined during the workshops, together with advice from the Council of Directors, form the basis for recommendations resulting from the study. At the national level, the Minister of Health noted that the responsibility for developing strategies that address delays in seeking and reaching care should be shared by all sectors of government since health behaviors and health outcomes are affected by the general social and cultural environment in which they occur.

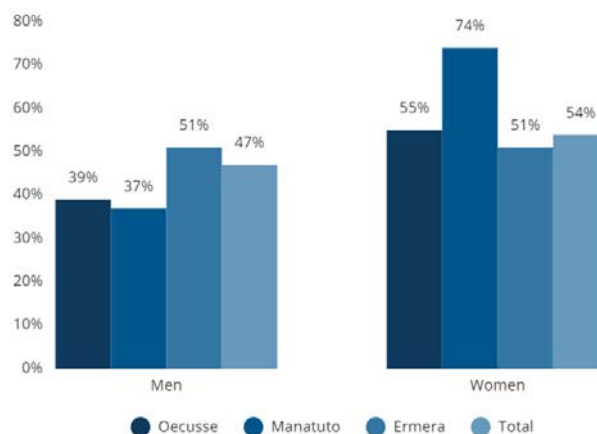
Percentage of Respondents Familiar with Birth Preparedness



Knowledge of Danger Signs



Reported Difficulty Accessing Health Facilities



RESULTS

The process of developing Municipality/Region Action Plans was the first step in responding to the study results because municipality leaders worked with Public Health Officers, staff from all health facilities and community leaders, with input from MOH, to consider the implications of the study and decide how to use the findings. The joint planning process itself provided an opportunity to strengthen the collaboration between community leaders and health providers, who had prioritized the need for this in their action plans.

Action plans developed at the municipality/region level were used in the MOH Annual Planning and Budgeting Cycle to develop the 2016 Annual Implementation Plan (AIP). The action plans provided an evidence-based argument for resourcing the activities necessary to address the factors contributing to delays in seeking, reaching, and receiving care. As a result, the AIP in each of the municipalities/region includes activities focused on increasing the demand for services to support safe motherhood and on improving the quality and supply of treatment received at health facilities. These activities will be funded in the 2016 health budget. This is a significant result of the implementation of the Three Delays Study as it provides immediate resourcing and potentially long term sustainability of these activities.

The MOH recognized the importance of the contribution of the study in addressing maternal health and mortality issues and thus decided to implement a maternal health community "three delays" study nationally. This study is one of the priorities on the National Institute of Health 2016 research calendar.

CHALLENGES

The findings of the Three Delays Study have been reviewed at all levels of the health system and by community leaders in the municipalities/region where the study was conducted. The challenge now is to apply these findings at the national, municipality/region, health facility and community level. At the national level, the Minister of Health is seeking inter-sectoral collaboration to address the issues related to the first, second, and third delay, which are affected by levels of education, availability of transport, communication, water and sanitation infrastructure as well as traditional practices and cultural norms. As these issues combined are beyond the scope of the Ministry of Health, the study results provide the impetus for challenging all sectors to work together to improve maternal health.

NEXT STEPS

HIP will support the implementation of the study recommendations by continuing to work with MOH at the national, municipality/region, administrative post, and community level in the delivery of targeted interventions to address the factors contributing to the three delays. New tools, guidelines, and training materials for monitoring and tracking pregnant and post-partum women at the community level, introduction of the non-pneumatic shock garment to manage post-partum hemorrhage, and other facility and community actions to ensure improved essential maternal and neonatal services are currently being implemented by the MOH with the support of HIP. These interventions, which are integrated into the MOH comprehensive package of Primary Health Care and funded in the 2016 Annual Implementation Plans provide a firm foundation for all activities designed to reduce delays in seeking, reaching, and receiving maternal health care.



Oecusse workshop participants prepare an action plan with the Director of the Regional Health Service.

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**Annex 13: Summary Report: Reducing the Burden of the Three Delays for
Maternal Health in Timor-Leste: Results from a Mixed Methods Study in
Ermera and Manatuto Municipalities and the Special Administrative Region
of Oecusse Ambeno**



REDUCING THE BURDEN OF THE THREE DELAYS ON MATERNAL HEALTH IN TIMOR-LESTE:

*Results from a Mixed-Methods Study on Individual- and
Community-Level Factors Contributing to First and Second
Delays in Ermera and Manatuto Municipalities and the
Special Administrative Region of Oecusse Ambeno*

Health Improvement Project (HIP)

Timor-Leste

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November 2015

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Introduction

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Introduction

Approximately 80% of maternal deaths globally are due to obstetric complications.

With a maternal mortality ratio (MMR) of 557 deaths per 100,000 live births, Timor-Leste has one of the highest rates of maternal death in the region.

Approximately 78% of births in Timor-Leste are delivered at home and less than 30% of all births are delivered by a skilled provider such as a doctor, nurse, assistant nurse, or midwife.¹

With such a large percentage of births occurring outside facilities and attended by unskilled providers, coupled with a largely rural terrain and limited transportation infrastructure, Timorese women are at increased risk of dying from delivery complications.

The time needed to receive adequate care is the most significant contributor to maternal mortality.^{2,3} Addressing delays resulting from hindered accessibility to reaching and receiving care are particularly

critical in countries with high MMRs.⁴

Delay factors are not always simple and often vary within and between contexts. It is important to understand the factors and dynamics within a specific context to mitigate delays.

To that end, the **Ministry of Health (MOH)** and the **National Institute for Health (INS)**, with technical assistance provided by **John Snow, Inc. (JSI)** through the **Health Improvement Project (HIP)** and financial support provided by the **United States Agency for International Development (USAID)** and the **Australian Department of Foreign Affairs and Trade**, implemented the **Maternal Health Community Study**.

The following summary report provides key findings from the mixed-methods study implemented in HIP project areas in Timor-Leste.

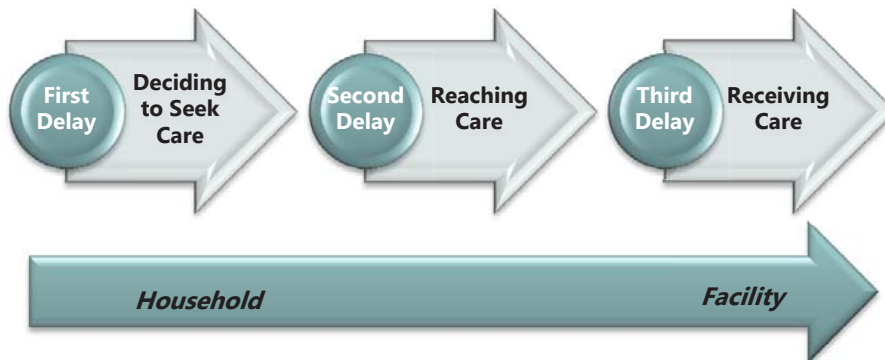
The report also highlights recommendations to reduce critical delays and improve maternal health outcomes.

The Three Delays

The study is based on [Three Delays Model](#),⁵ which is an explanatory conceptual framework for maternal mortality. The model outlines three phases of delay that affect reaching and receiving care.

The **first delay** is **recognizing a problem and deciding to seek care**. Factors shaping this decision-making process include knowledge about pregnancy and childbirth complications, recognizing the seriousness of symptoms, cultural beliefs, and traditional decision-making roles.

Delays from the household to facility levels can postpone provision of appropriate treatment, thus increasing the risk of maternal death.



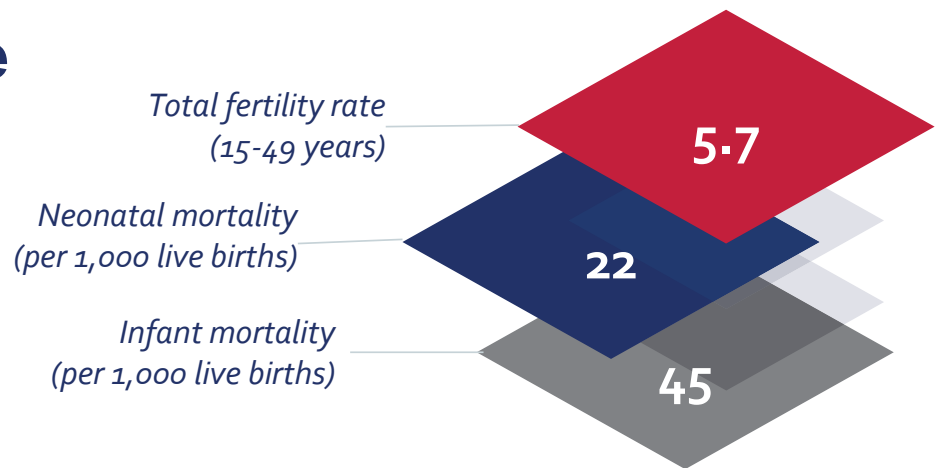
The **second delay** is **reaching a facility** that provides an appropriate level of care. Factors contributing to this delay include physical accessibility, transport cost and availability, distance, and infrastructure conditions.

The **third delay** is **receiving adequate and appropriate care**. Availability of supplies and equipment, a lack of trained and competent personnel, and the quality of care received all contribute to this delay.



Mother and child. Photo: TL-HIP staff at a SISCa in Natabora, Manatuto.

About Timor-Leste



Timor-Leste comprises the eastern portion of the island of Timor and includes the islands of Ataúro and Jaco to the north, and the enclave of Oecusse on the western portion of the island.

Understanding the health situation in Timor-Leste today requires an understanding of a long and troubled history of colonization, occupation, and war.

In the early part of the 16th century, the Portuguese first made contact with the island as a point of trade. By mid-century, Portugal had colonized the whole island. In a territorial dispute in the early 1990s, Portugal ceded the western half of the island to the Dutch.

Due to its strategic location, the island was also invaded and occupied by Japan from 1942-1945, during the Second World War.

A formative stage began with the Timorese independence movement in 1975 following the 1974 coup in Portugal. However, only a few days after declaring independence, the eastern half of the island was invaded and occupied by Indonesia. The following 25 years of occupation resulted in an estimated 100,000 – 200,000 Timorese deaths.

The 2013 Human Development Index (HDI) ranks Timor-Leste 128 of 187 countries, with approximately 64% of the population living in multidimensional poverty.⁶

Although Indonesian occupation ended in 1999, there was a further period of violence by the Indonesian military and anti-independence Timorese militias.

Indonesia's exit from the country was also marked by a "scorched earth" campaign resulting in the destruction of approximately 90% of the country's infrastructure. This included homes, water supply systems, and the electrical grid. The effects of this insidious campaign are still felt today.



Photo accessed at: <http://www2.ilmci.com/2010/07/timor-leste-jadi-pusat-suaka.aspx> on September 23, 2015.



Photo accessed at: <http://www.unhcr.org/> on September 23, 2015.

Since Timor-Leste was internationally recognized as an independent country in 2002, it has experienced a period of relative peace. However, it continues to face significant economic and development challenges. As a young and largely rural country, Timor-Leste's economy remains one of the poorest in the world with among the poorest health indicators in the region.

Population 1.13 million

70% live in rural areas; of which 35% live in isolated and remote areas

Almost 87% of the population is between 0-14 years of age

Methodology

*Description of the
Study (pg. 9)*

*Study Sample
(pg. 10)*

Description of the Study

*The **Maternal Health Community Study** is a mixed-methods study design implemented in the Health Improvement Project municipalities of Ermera and Manatuto and the Special Administrative Region of Oecusse Ambeno in Timor-Leste.*

The aim of the study was to develop a better understanding of the individual- and community-level factors contributing to delays as they affect maternal mortality and morbidity.

Specific objectives:

- ❑ Identify factors contributing to delays in recognizing problems and deciding to seek care.
- ❑ Identify factors contributing to delays in reaching a facility that is able to manage obstetric complications.
- ❑ Identify perceptions of key community stakeholders on factors contributing to delays, and the availability and mobilization of community resources to address these delays.

Study Design

A mixed-methods study was designed to capitalize on the advantages of both quantitative and qualitative techniques for an in-depth exploration of the issue.

The first part of the study was a quantitative survey among women of reproductive age (15–49 years) who have been pregnant in the two years prior to the survey and the partners or spouses of eligible women.

The questionnaires obtained household and sociodemographic data as well as knowledge, attitudes, and perceptions, media exposure, and participation in community interventions.

Additionally, eligible women were asked about personal experiences with the last pregnancy and birth.

The second part was a series of qualitative in-depth interviews and focus group discussions.

A “near miss” obstetric event refers to cases where women nearly died due to an obstetric complication that required medical intervention, but survived due to factors such as chance or having received timely and appropriate care.^{7,8}

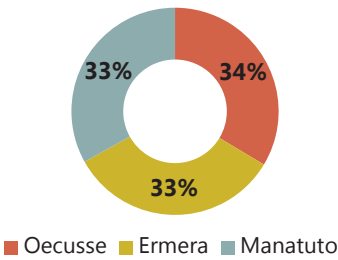
The six population domains of interest included: 1) women who had “near miss” events; 2) husbands of these women; 3) relatives assisting delivery during a “near miss” event; 4) midwives; 5) traditional birth attendants (TBAs), and; 6) male and female community leaders.

Study Sample

The sample size allows for statistically significant differences to be detected between municipalities and gender groups.

The final quantitative sample size was 592 men and 592 women (total n=1,184). The sample was fairly evenly distributed across the three project areas.

Sample Distribution



Qualitative Sample

The qualitative sample provided a reasonable cross-section of perspectives from the six domains of interest.

Purposive sampling was used to select participants, capitalizing on local knowledge of community leaders, program staff, and health facility personnel to identify and approach eligible respondents.

A total of 47 in-depth interviews were completed and included the following:

"Near-miss" women	12
"Near-miss" husbands	12
"Near-miss" relatives	12
Midwives	11

A total of 27 focus group discussions were completed and included the following:

Male community leaders	7
Female community leaders	8
TBAs	12

Quantitative Sample

A cluster survey design was used, with clusters (*sucos*, or villages) randomly selected from each sampling domain (municipality/region) using probability proportional to size (PPS).

One *aldeia* (subvillage) was randomly selected from each *suco* using PPS, with 12 households randomly selected from each *aldeia* using simple random sampling (SRS).

Sample Description

*Sociodemographic
Characteristics*

Age (pg. 13)

*Education and
Literacy (pg. 14)*

*Socioeconomic
Characteristics*

*Water and
Sanitation (pg. 16)*

*Household Durable
Goods (pg. 17)*

Sociodemographic Characteristics

Previous studies have shown that a variety of sociodemographic factors have an effect on health behaviors like uptake of birth preparedness and complication readiness, as well as on health outcomes. For example, higher educational levels of the mother have been associated with greater birth preparedness and complication readiness,⁹ while lower maternal education levels have been associated with adverse outcomes such as preterm births and low birth weights.¹⁰

Sociodemographic variables such as age, educational status, and gender help explain attitudes, behaviors, and health outcomes.



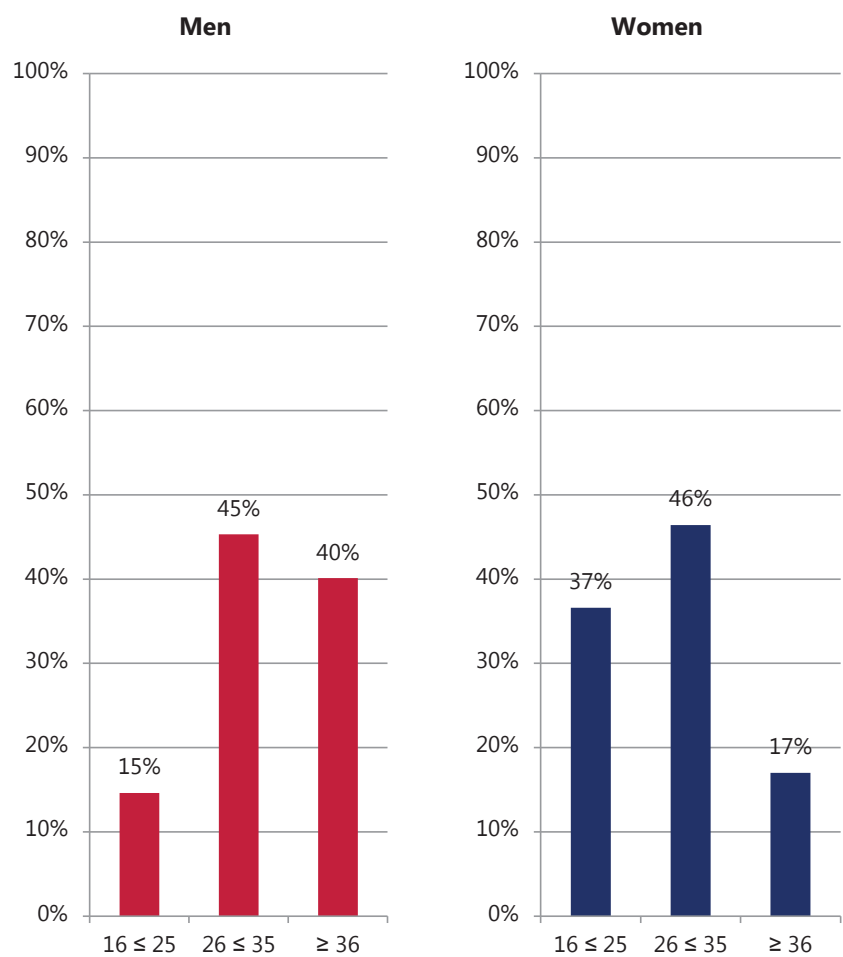
Father and children. Photo: Emily Epstein in the Special Administrative Region of Oecusse Ambeno, July 2014.

Age

While the majority of men and women in the sample fall within the age range of 26 to 35 years, a higher proportion of men were 36 years or older, while a higher proportion of women were 16 to 25 years of age.

Median age of men by district:
Oecusse 36 years
Manatuto 33 years
Ermera 34 years

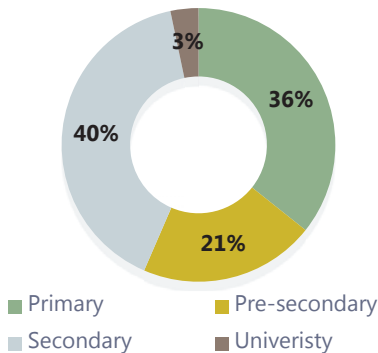
Median age of women by district:
Oecusse 29 years
Manatuto 28 years
Ermera 29 years



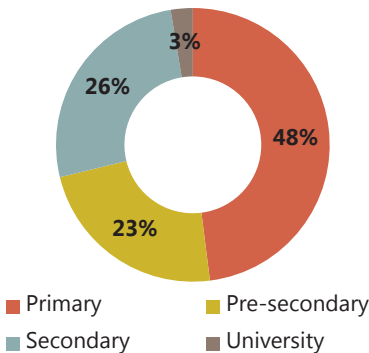
Education and Literacy

Approximately 70% of men reported having some level of schooling compared to 59% of women. About 34% of men and 48% of women identified themselves as unable to read or write at all.

Highest Level of Education among Men



Highest Level of Education among Women



Oecusse

Population 70,351



46% of men self-reported as unable to read or write

49% of women self-reported as unable to read or write

Manatuto

Population 45,893



22% of men self-reported as unable to read or write

25% of women self-reported as unable to read or write

Ermera

Population 127,525



34% of men self-reported as unable to read or write

52% of women self-reported as unable to read or write

Socioeconomic Characteristics

Household socioeconomic conditions are strongly linked to the vulnerability of its members and are important risk factors for health outcomes. Socioeconomic conditions are based on factors such as income level, occupation, and rural-urban residence. Information on economic conditions can also be assessed via household proxies such as the type of flooring, cooking fuels, access to clean water, and improved sanitation facilities.

Individuals who are socioeconomically better off often have higher health status and rates of health care utilization and lower mortality and morbidity levels than their poorer counterparts.

Socioeconomic conditions can impede or facilitate birth preparedness and complication readiness of household members.



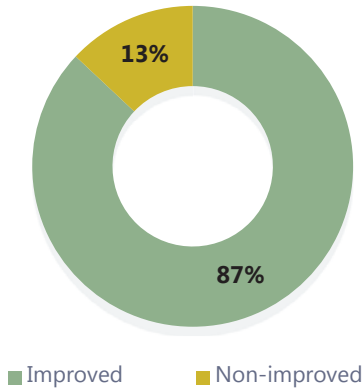
Photo accessed at:
https://www.flickr.com/photos/un_photo/sets/72157626194186743/. September 23, 2015.

Water and Sanitation Facilities

Clean water and good sanitation are critical to prevent water-related and diarrheal diseases. These intestinal diseases can impede the absorption of nutrients, and have a negative effect on pregnancy outcomes and the health of the mother and fetus.

To determine improved versus non-improved sources, the survey used the same classifications as those in the *Timor-Leste Demographic and Health Survey 2009-10*.

Water Sources
(all districts)



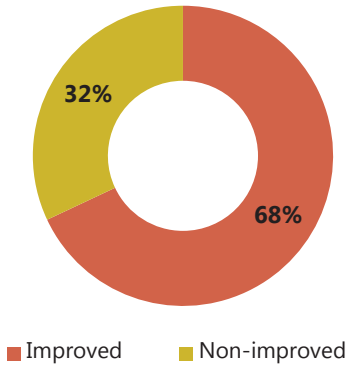
Improved water sources:

- Piped into dwelling/plot
- Public tap/standpipe
- Tube well or borehole
- Protected dug well
- Protected spring
- Rainwater
- Bottled water

Improved sanitation facilities:

- Flush/pour to piped sewer system
- Flush/pour to septic tank
- Flush/pour to pit latrine
- Ventilated improved pit latrine
- Pit latrine with slab
- Composting toilet

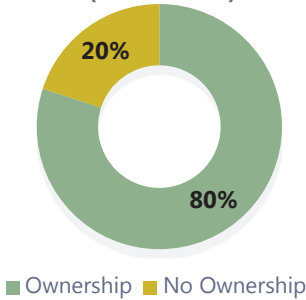
Sanitation Facilities
(all districts)



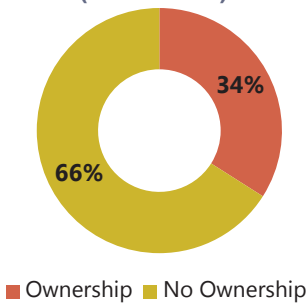
Household Durable Goods

Household ownership of goods such as radio, television, and phones are means by which individuals can receive information to raise awareness or improve knowledge, and are methods of communication in cases of emergencies.

Mobile Phone
(all districts)



Radio or Television
(all districts)



Oecusse

Mortality (per 1,000 live births)
Neonatal: 25
Infant: 66
Under-five: 92

Manatuto

Mortality (per 1,000 live births)
Neonatal: 31
Infant: 50
Under-five: 69

Ermera

Mortality (per 1,000 live births)
Neonatal: 23
Infant: 70
Under-five: 102



Oecusse Ownership:
63% mobile phone
11% radio
19% television



Manatuto Ownership:
78% mobile phone
19% radio
28% television



Ermera Ownership:
84% mobile phone
25% radio
8% television

Key Findings

The First Delay: *Deciding to Seek Care (pg. 19)*

The Second Delay: *Reaching Care (pg. 27)*

The Third Delay: *Receiving Care (pg. 32)*

The First Delay: Deciding to Seek Care

The first delay has to do with delays related to **recognizing danger signs and deciding to seek care**.

As the majority of maternal deaths occur during labor or the first 24 hours postpartum, recognizing a life-threatening condition is not always easy. Many complications cannot be predicted or prevented and medical knowledge is needed to diagnose and act upon complications. However, by the time most problems are identified, it is often too late.

*The **first delay** refers to delays that occur when a woman or her family does not recognize key complications during pregnancy or delivery, or does not understand the importance of seeking care when one or more complication develops.*

Factors that contribute to this delay include low educational levels, low status of women, poor understanding of complications and risk factors, misunderstanding about when interventions are needed, and traditional or cultural beliefs.



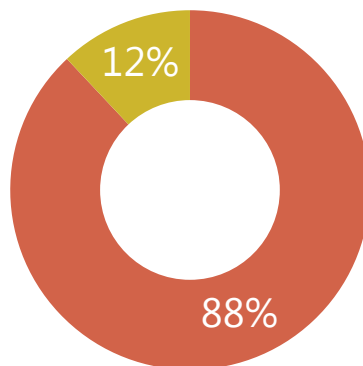
Woman and newborn. Photo: TL-HIP staff in Pualaka, Manatuto municipality.

Awareness of Unforeseen Problems

A high proportion of both men and women were aware that unforeseen problems could occur during any of the three childbearing stages.

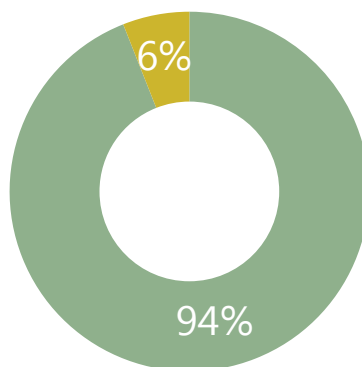
"I was thinking about my previous deliveries with my two kids. I just gave birth at home (before), so with this delivery I thought it was fine to have at home too."

Near-miss woman,
Manatuto



■ Men aware ■ Men not aware

*Among men who were aware that unforeseen problems could occur, only **73%** thought a women could die from these problems.*



■ Women aware ■ Women not aware

*Among women who were aware that unforeseen problems could occur, only **69%** thought a women could die from these problems.*

Knowledge of Danger Signs During Childbearing Stages

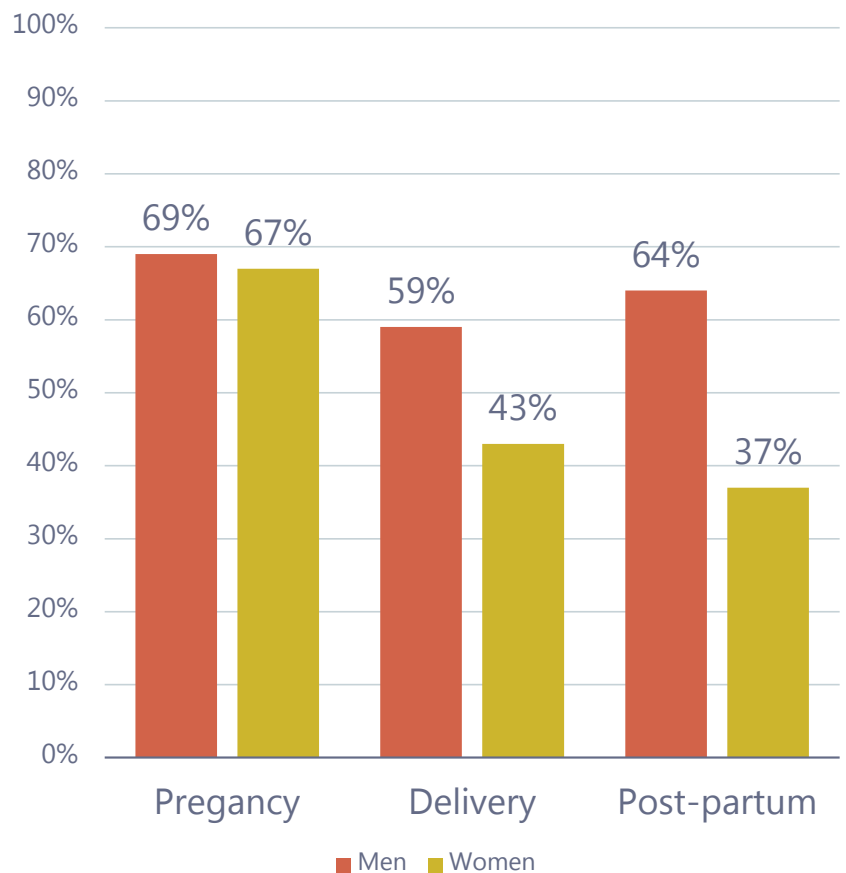
Men had slightly higher knowledge levels of key danger signs during delivery and postpartum than women.

Two-thirds of men and women were able to cite at least one of the three key danger signs during pregnancy.

*"Women still lack knowledge on risk factors during delivery and sometimes they already have bleeding but they **treat it as normal.**" Midwife, Manatuto*

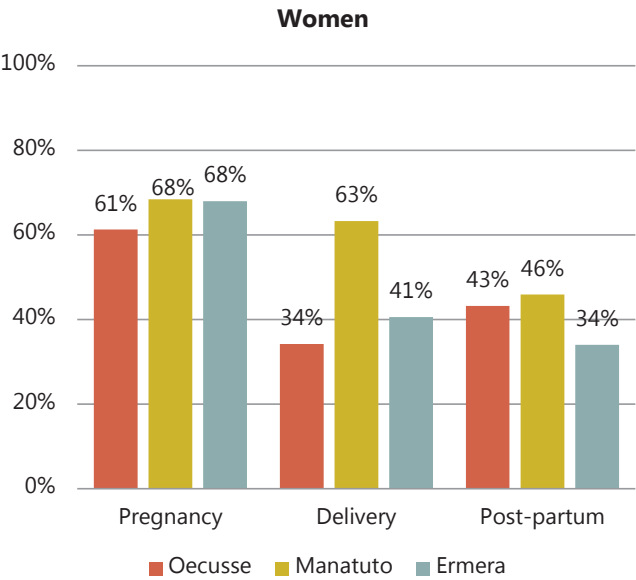
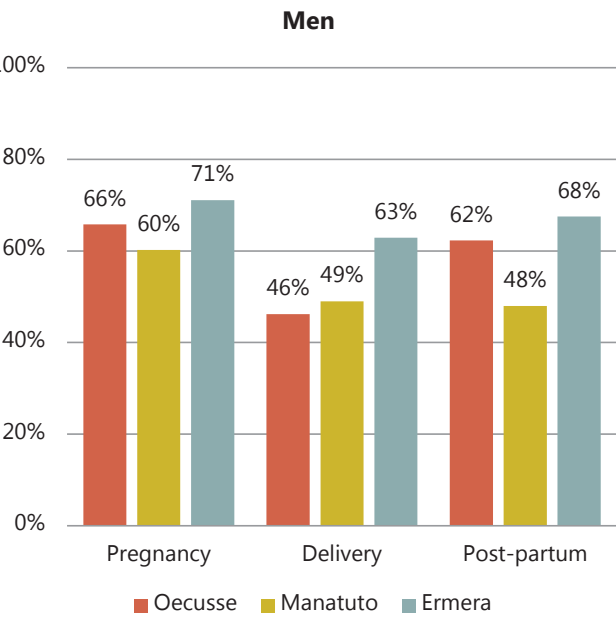
However, about 40% of men were unable to cite two of the four key danger signs during delivery, and 36% of men were unable to cite at least one of the key danger signs during postpartum.

Knowledge of Key Danger Signs



Among both men and women, there were differences in knowledge levels between districts. Further, the distribution of knowledge levels at each childbearing stage was not the same across districts between men and women.

Men in Ermera generally had higher knowledge of at least one key danger sign during pregnancy and postpartum and at least two key danger signs during delivery.



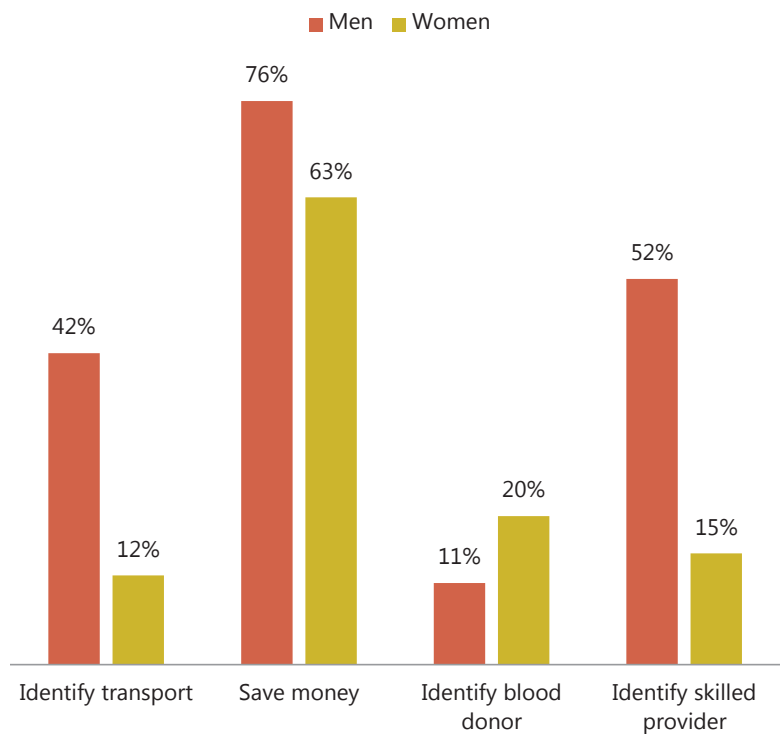
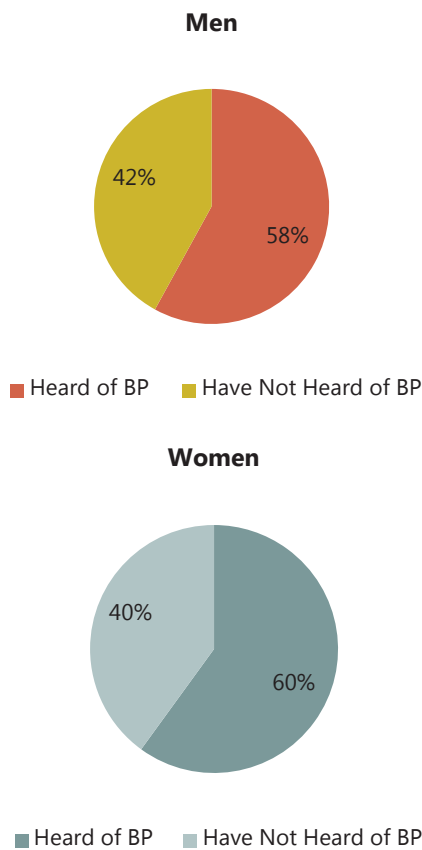
Women in Oecusse had substantially lower knowledge of at least two of four key danger signs during delivery, but women in Ermera had proportionately lower knowledge of at least one key danger sign during postpartum.

There were also substantial gender differences in knowledge. For example, twice as many men as women in Ermera knew of at least one key danger sign during the postpartum period.

Knowledge of Birth Preparedness

Although a little more than half of men and women heard of birth preparedness previously, there are some variations between men and women on which of the four components they heard about.

More than three times as many men heard about identifying transport and identifying a skilled provider.



Attitudes about Birth Preparedness



Woman and baby. Photo by TL-HIP staff in Pualaka, Manatuto municipality.

Cultural or traditional perceptions may discourage actions that prepare for birth complications that may occur.

Results from the interviews suggest that preparations for birth should largely be limited to materials and supplies needed for a normal birth: clothes for the baby, food, a clean house, hot water, and oils for traditional ceremonies.

"As per culture (women) should not make preparations before 7 or 8 months."

*TBA,
Ermera*

Making preparations too far in advance or planning for complications was considered to be "inviting" complications, and might harm the baby or the mother. The emphasis is on assuming a "normal" delivery and only addressing complications when and if they arise.

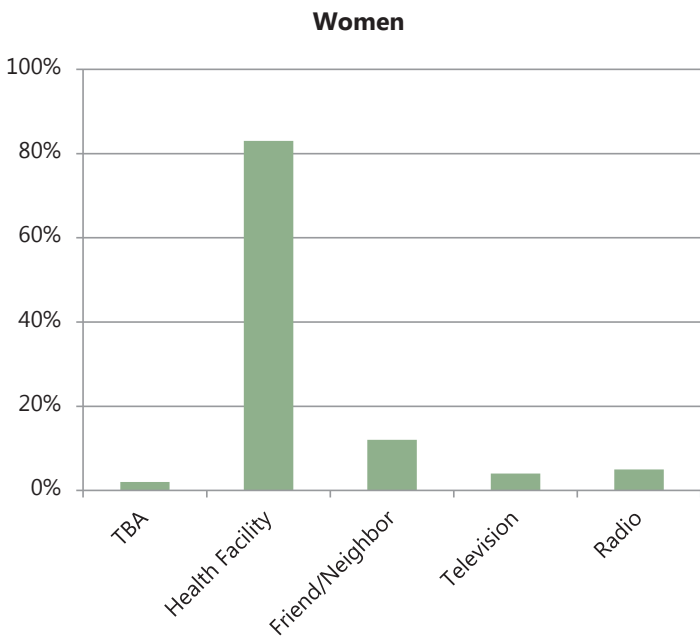
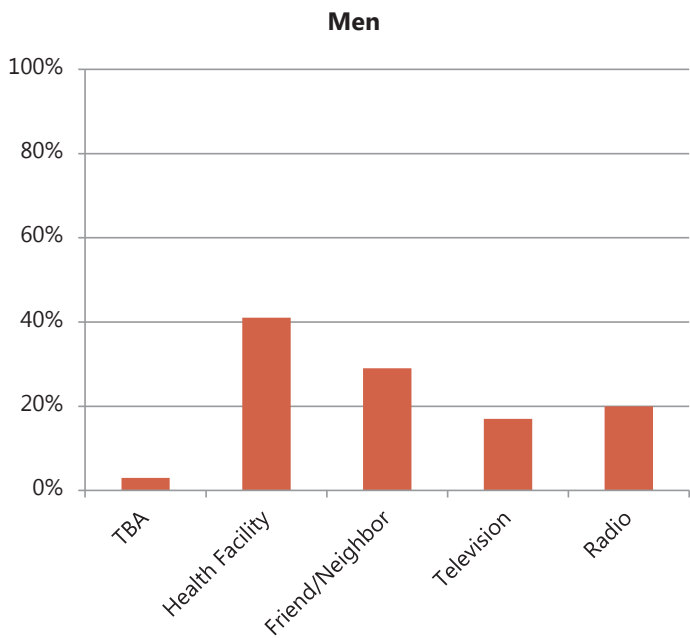
"Only go to the hospital...if something unexpected occurs."

*Near-miss woman,
Oecusse*

Preferred Sources of Birth Preparedness Information

The results indicated some interesting differences between men and women regarding preferred information sources.

For example, while a higher proportion of both men and women preferred information to come from a health facility, this was substantially higher among women than men. Similarly, more than twice as many men as women preferred friends and neighbors as information sources.



Decision Making

Decision making such as the location for the delivery of the last birth or about problems or complications that occurred at last birth were largely reported to be a joint process involving the woman and her husband alone. However, the interviews provided a different perspective, indicating that there was often much greater familial involvement in decision-making processes.

"Even if the condition of the woman needs an urgent transfer to the health facility she cannot do anything as she has to wait for the decision from all the family."

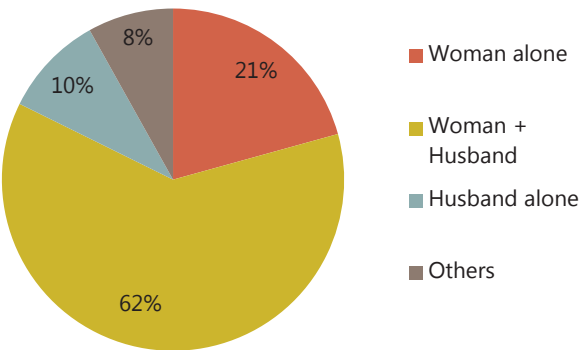
*Midwife,
Manatuto*

Across interviews, respondents emphasized the importance of familial involvement for any major decisions, including those related to the delivery and care during delivery.

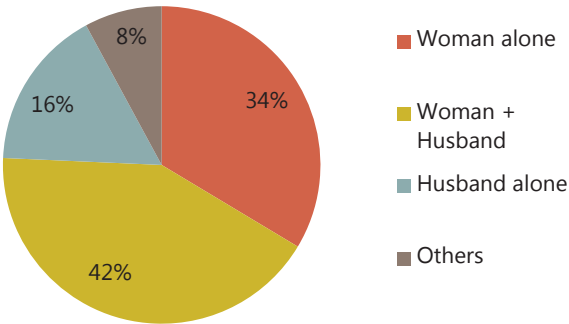
"It is family tradition that a husband and a wife cannot make a decision alone and have to have a discussion with the parents-in-law and follow the traditional activities before being taken to a health facility."

*Male community leader,
Ermera*

Decision Making for Last Birth Location



Decision Making for Complications at Last Birth



The Second Delay: Reaching Care

The second delay refers to delays in **reaching an appropriate source of care**.

A lack of access to vehicles, paved roads, or limited public transportation options means that it can take hours or even days to reach a health facility, especially one that is equipped to deal with an emergency. When precious minutes and hours count for many types of emergencies, these conditions may prevent a woman from reaching a facility in time to save her life.

This delay can occur when the mother must travel long distances to reach care but lacks transportation or financial means to pay for transportation.

Factors that contribute to this delay include distance to a source of care, lack of transport, transport costs, poor roads, time and opportunity costs, and security concerns.



Photo accessed at: <http://www.palms.org.au/newsletters/roger-bowens-news-from-maliana/> September 23, 2015.

Transportation Ownership

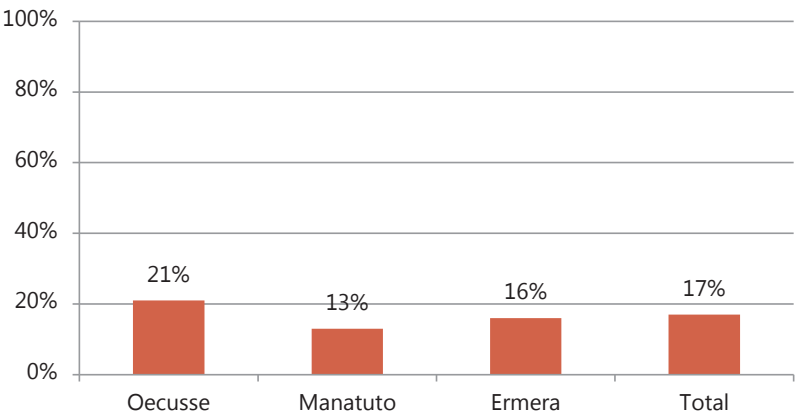
Ownership of transportation is an important indicator of an individual's ability to utilize transportation when needed.

Overall transportation ownership was low for motorcycles and almost non-existent for vehicles.

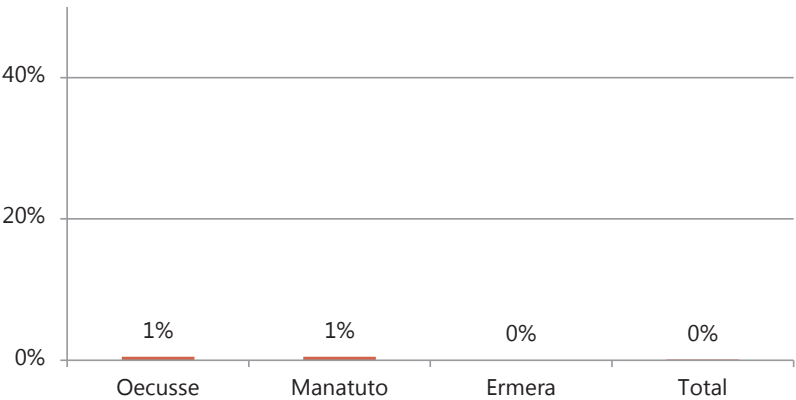
Almost twice as many households in Oecusse owned a motorcycle than households in Ermera. Vehicle ownership was 1% or less in all districts.

"Transportation is very difficult, especially during the rainy season. Therefore women with bleeding find it very difficult to reach a health facility."
Female community leader,
Oecusse

Motorcycle ownership



Vehicle ownership



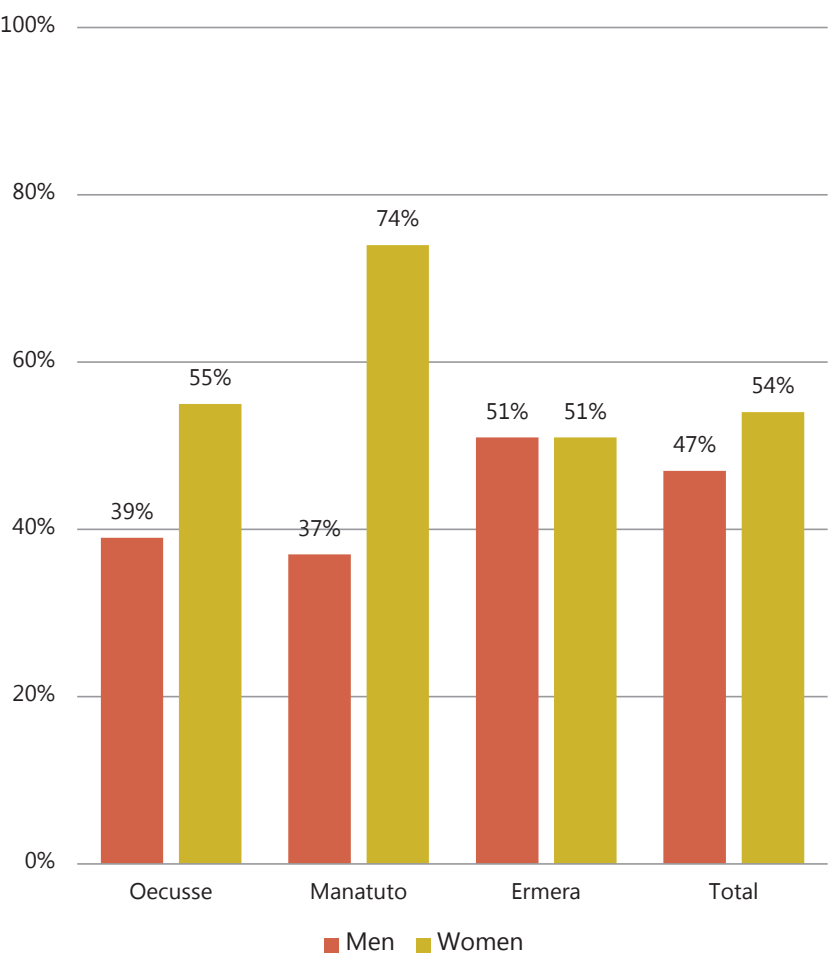
Difficulty Reaching a Health Facility

"We didn't have money to pay for transport and that **caused a delay** to seek care at the health facility. No one is taking care of my kids, no one is helping me, and the distance from my home to the hospital is far."

Near-miss woman,
Anatuto

About half of men and women noted they found it difficult to get to a health facility, with some differences between districts.

Twice as many women as men in Manatuto said that reaching a health facility was difficult; almost one-and-a-half times as many women as men in Oecusse cited difficulties.

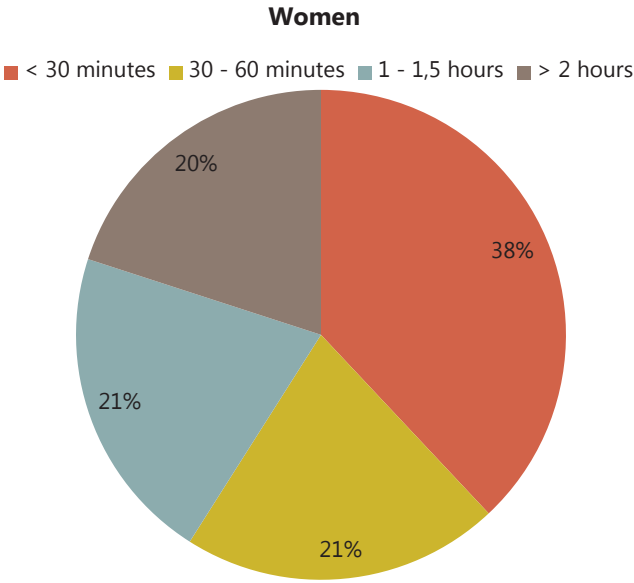
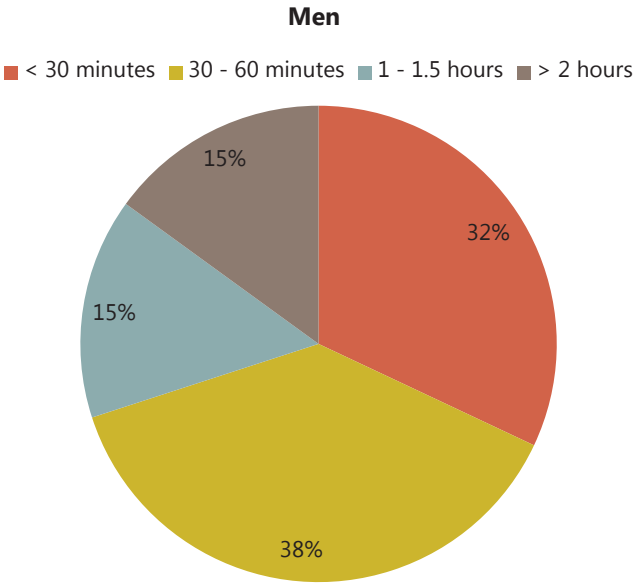


Time to Reach the Nearest Health Facility

The majority of both men and women noted that it took between 30-60 minutes to reach the nearest facility.

The time cited was largely by foot among men (91%) and women (88%). It should be noted that the nearest health facility cited was almost exclusively a health post. This is the lowest level of health facility available in Timor-Leste and is not equipped to manage most obstetric complications.

Around one-fifth of men and women reported that it usually took two hours or more to reach the nearest health facility.



Financial Barriers

Financial considerations represent a significant barrier to accessing needed medical services. For example, even if transportation is available, the means with which to pay for it often is not.

"The obstacle is a lack of financial support (...) if the transport is available we will take the car. Otherwise we will just walk to rush to the hospital. The road is bad and the transportation is difficult. Sometimes we have money but there is no car available for us to use and it is very difficult."

Near-miss woman,
Oecusse

Since facility ambulances are free, many respondents said they would try to secure this option first. But the few ambulances and facility-based vehicles available must cover a large geographic area for all types of emergencies, so this is often not an option.

As a result, financial resources often determines the course of treatment that a woman receives.

"If the ambulance is not available we look for another type of transportation, but it depends on our finances. If we don't have money we just stay at home and use traditional medicines because we live far from a health facility."

Near-miss relative,
Manatuto

Resources to cover transportation costs are not the only financial concern. Costs related to a woman's stay in a facility, including money for food while there and accommodations for someone to accompany her, are a related concern.

Another concern is maintaining the household while the woman and perhaps her husband is away from the home.

"(Families are) concerned (about) who is going to take care of their kids at home and how they are going to eat."

Near-miss relative,
Manatuto

The Third Delay: Receiving Care

The third delay refers to delays in **receiving appropriate care at a health facility**.

Even if a women makes it to a health facility, she may receive inadequate care and treatment. This is a particular concern in low-resource settings.

This delay can occur at the health facility itself, often due to a lack of trained personnel, understaffing, or a lack of medicine or equipment.

Factors that contribute to this delay include a lack of trained and skilled staff, an insufficient number staff, limited availability of medicine and equipment, general poor conditions of the facility, and poor attitudes and treatment on the part of medical personnel.



CHC in Oesilo, Oecusse municipality. Photo: TL-HIP staff.

Perceived Quality of Care

Men and women generally had very positive perceptions of the quality of care received at health facilities.

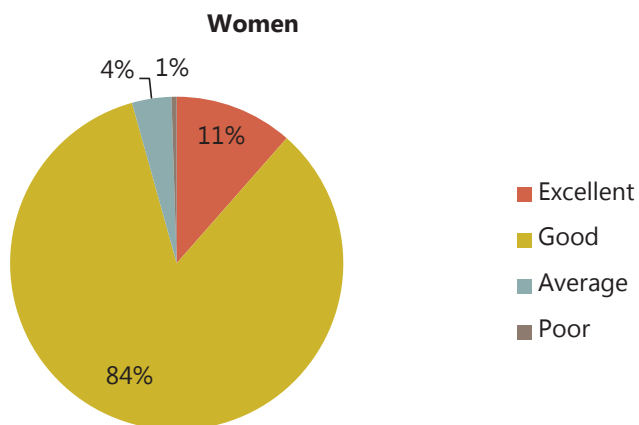
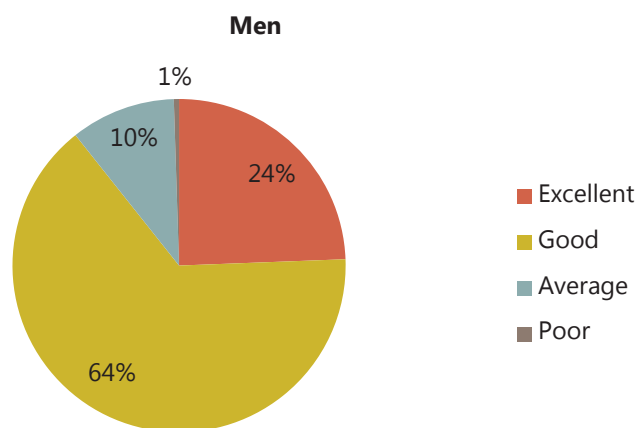
"They (health staff) were polite and provided good assistance during delivery. They gave me good treatment and I got better."

Near-miss woman,
Manatuto

Around 90% of men and 95% of women reported the quality of care at facilities was either good or excellent. Only 1% or less reported facility level of care as poor.

"At the hospital the health staff know how to give care to the mother and baby with a bleeding case."

Near-miss woman,
Manatuto



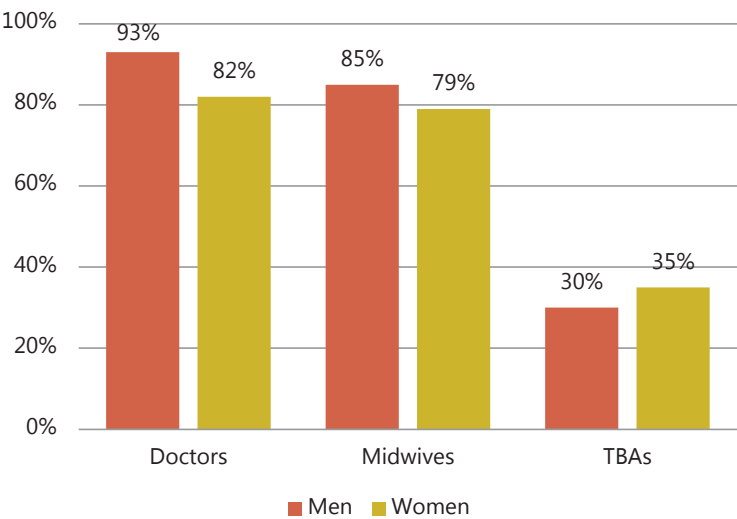
Perception of Care Quality

While several factors influence perceptions of the quality of care at facilities, there were several notable differences between men and women.

For example, half as many women as men thought that the facility has the needed medicines, and four times as many men as women thought there was a short wait.

	Men	Women
Facility always open	66%	77%
Staff responsive	49%	36%
Facility has medicines	67%	35%
Short wait	55%	13%

Providers Know How to Treat Complications



Respondents had positive perceptions of the ability of key facility-based staff such as doctors and midwives to provide the needed care and treat complications.

Of interest is that only one-third of women and men had the same level of confidence in the ability of TBAs to manage complications.

Health Facility Barriers

Attitudes have an important role in client use of services. While this is often weighed in the decision-making process about whether to seek services, attitudes may also impede the care received while at the facility itself.

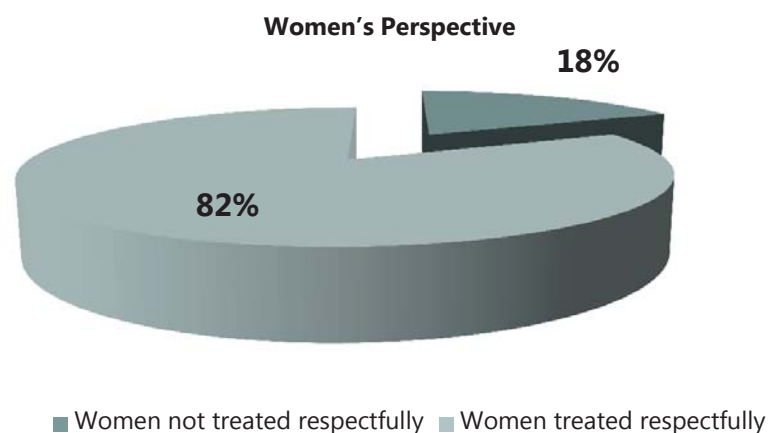
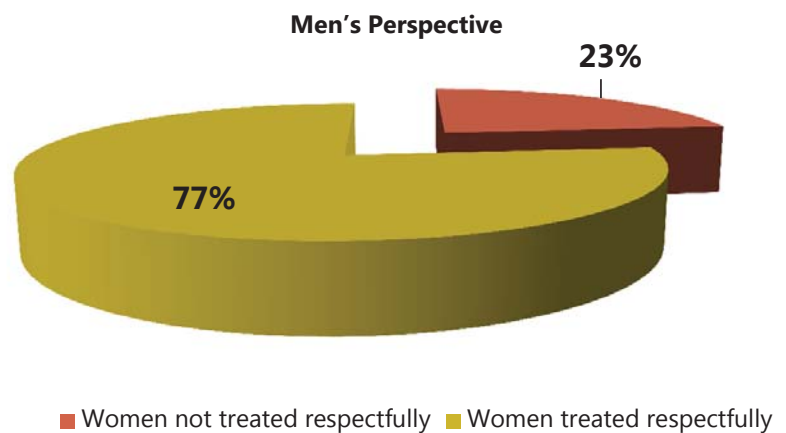
".....the midwife just screamed."

*Near-miss woman,
Oecusse*

Despite the generally positive perception of facility staff treatment of women, a notable proportion of men and women thought women were not treated respectfully by facility staff.

"Some midwives scream at them (the women) in the hospital and makes the woman feel embarrassed. So they choose to go to a TBA instead."

*Female community leader,
Ermera*



Information Provided During Antenatal Care Visits

Although antenatal care (ANC) is not part of the care received during obstetric emergencies, it is an important part of facility-based care.

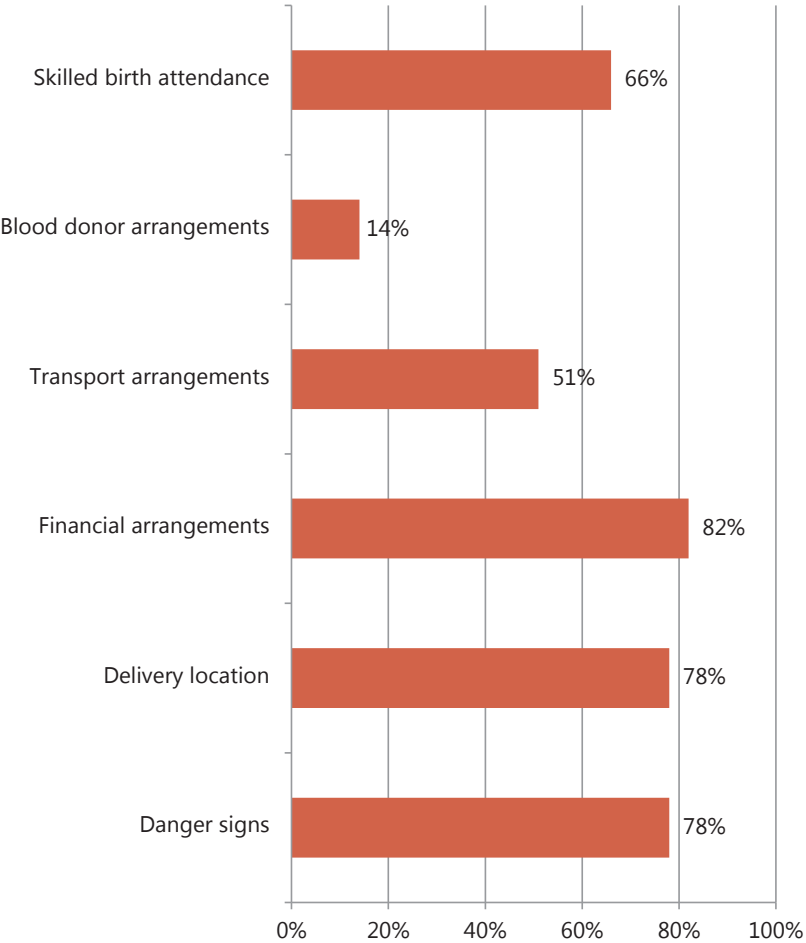
Women were asked about the information received from health care workers at their ANC visits during their last pregnancy.

During their last pregnancy, 70% of women reported completing four or more ANC visits.

The content of information largely focused on financial arrangements, selecting a delivery location, and danger signs.

However, only about half discussed transportation arrangements, which is of interest given that transportation was cited as a significant barrier to care for men and women.

Further, identifying a blood donor was discussed with a few respondents, which may be due to the lack of a formal blood donation system in Timor-Leste.



Discussion

*Discussion of First Delay
Factors (pg. 39)*

*Discussion of Second
Delay Factors (pg. 43)*

*Discussion of Third
Delay Factors (pg. 45)*

Discussion

Discussion of key findings are framed by the Three Delays model.

As the **Three Delays model** recognizes the complex and interrelated nature of factors that create barriers to access to high-quality maternal care for women and their families, discussing the results of this framework provides insight for program approaches to improve access to care and care-seeking practices.

There are a number of factors affecting whether or not a woman will seek, reach, and receive care during an obstetric emergency but the linkage is not always a linear, cause-and-effect relationship. Rather one factor may affect more than one delay point. For example, previous poor experiences with health facility staff due to poor provider attitudes may delay the decision to seek care as well as affect the ability of health staff to deliver adequate care.

At the same time, a delay in one component may not necessarily trigger a delay in another. This is important when considering programmatic implications.

<i>First delay:</i> Recognition of danger signs and deciding to seek care	<i>Second delay:</i> Reaching an appropriate source of care	<i>Third delay:</i> Receiving adequate and appropriate treatment
Low educational levels	Distance to source of care	Lack of equipment and supplies
Lack of knowledge and poor recognition of danger signs	Lack of transport	Insufficient staff
Limited birth preparedness knowledge	Financial costs	Lack of trained staff
Decision-making processes	Other time and opportunity barriers	Poor staff attitudes

Discussion of First Delay Factors

Education

Education affects people's ability to make informed decisions.

Educational attainment for men is fairly low and even lower for women. Self-assessed literacy is also low among 34% of men and 48% of women. This indicates that not only is there a substantial proportion of men and women who are unable to read at all, but some men and women who attended some level of schooling may not have learned to read or write at a basic level.

The low levels of literacy may ***prohibit some men and women from accessing and learning from written materials*** related to birth preparedness and complication readiness (BP/CR). Access to and understanding of this information is an important prerequisite for improving knowledge of key danger signs and evaluating information for applicability to each situation.

Low levels of education may also negatively affect people's ***ability to process information***. Evaluating the relevance of information and selecting information that is most pertinent to an individual's situation is an important process and potentially life-saving process.

Critical thinking skills, especially those gained through higher levels of education, are important but often overlooked. People are ***more likely to adopt behaviors*** if they can relate to and apply learned information to their specific situation or circumstances, thus translating knowledge into practice.

Social networks are an important, but often overlooked, means of transmitting information. Women indicated a preference for receiving BP/CR information via health facilities and men indicated a preference for friends and neighbors. Information from preferred sources is often considered more reliable and trustworthy and thus encourages uptake and implementation of learned information.

Discussion of First Delay Factors

Lack of knowledge

Knowing when medical interventions are needed is essential for prompt decision making during obstetric complications and care seeking.

While 88% of men and 94% of women indicated awareness that unforeseen problems can occur and a relatively high proportion know that women can die from these complications, specific knowledge on key danger signs is lacking.

Less than half of men and women were able to identify a sufficient number of key danger signs during each of the childbearing stages. Not only was knowledge significantly lower for the delivery stage, women in general had much lower levels of knowledge than men.

Not knowing which signs signify complications during the childbearing stages and inability to recognize severity **contributes to delays in decisive action**. Symptoms may be dismissed as part of the “normal” pregnancy process. Knowledge about a wide array of symptoms may lead to confusion about which ones require immediate attention.

Men and women often reported drawing on previous pregnancy experiences to gauge how the next pregnancy would go. There was a lack of awareness that **problems can occur in any pregnancy**. Further, there was a lack of understanding that even a normal pregnancy experience can result in complications at the delivery and postpartum stages.

A lack of comprehensive knowledge regarding key danger signs can lead to greater **reliance on traditional preparation practices to avert complications**. Preparation of foods, rituals, and resolving family discord are assumed to be sufficient to ensure a normal delivery.

Discussion of First Delay Factors

Birth preparedness and complication readiness can positively influence knowledge, household practices, and the use of some services.

Birth preparedness and complication readiness (BP/CR) includes four major components: 1) saving money; 2) arranging transport; 3) identifying a blood donor; and 4) identifying a skilled provider.

The impetus behind BP/CR is that planning for the four components can help women and their families plan for normal pregnancies, deliveries, and postpartum periods and deal with obstetric emergencies if they occur.

While a little more than half of men and women were aware of the BP/CR concept, there was ***wide variation in which of the four key components they were aware***. Higher levels of awareness of some components over others could be indicative of individual concerns as well as the emphasis of certain components through information-sharing outlets.

Further, there were ***differences between men and women's*** awareness of different components. This may again be indicative of which of the components each is most interested in or how messages are targeted to different audiences.

As the majority of men and women have a preference for local or traditional birth attendants (TBAs), local delivery options will continue to have an important role. Women and their families will often turn to TBAs for guidance on which preparations are needed for a healthy pregnancy and delivery. ***Traditional beliefs, practices, and customs also play an important role*** in the decisions made or even the uptake of BP/CR planning.

Birth preparedness

Discussion of First Delay Factors

Decision-making processes

Decision-making processes on important issues often involve wider family influence in the Timorese context.

Who is involved in the decision making process about when and how to seek care is a significant factor in the decision-making process. Parents, in-laws, aunts, friends, and even the wider community members may be consulted during decision making before action is taken or even in the wake of an emergency.

Reliance on familial input in combination with a traditional tendency to ***make decisions only if an emergency occurs*** can contribute to delay cycle. It takes time to gather family and community members and then to discuss and agree upon a course of action.

Related to this is a strong ***traditional belief that emergencies and complications are often the result of internal family discord***. This means that even while an emergency is occurring, the family discord must first be resolved. The belief is that resolution of discord is necessary not only before a decision can be made about a course of action but also to ensure that whatever course of action is taken will be effective.

It is also important to note that during an obstetric complication women may be unconscious or physically unable to participate in the decision making process. This ***diminishes the likelihood that her wishes or preferences will be taken into consideration*** while such discussions are taking place. Further, a traditional “wait and see” approach to take action only if and when a complication occurs may delay the decision-making process and subsequent action.

Discussion of Second Delay Factors

Transportation barriers

A largely rural and difficult terrain, coupled with poor road infrastructure make physical transportation a particular challenge in Timor-Leste.

Household ownership of transportation is particularly low, indicating **limited personal control over the use of transport**. Ownership of vehicles that could transport women with a complication is almost non-existent. This indicates that women and their families must rely heavily on public transport options, availability of an ambulance from a health facility, or financial means to secure transport.

The distance between communities and health facilities is a particular challenge to accessing health services, as expressed by 47% of men and 54% of women. The lack of sufficient infrastructure and paved roads into many communities is **often complicated** during the rainy season as there are few bridges or boats to cross them.

Distance and transportation difficulties **can figure significantly into the decision-making processes**. Many men and women cited a preference for seeking local options first before attempting to overcome myriad transportation barriers they may face.

Transportation barriers are further complicated by the fact that the nearest facility may only be a health post, **representing only the first level of entry into the formal health system** and where care for obstetric emergencies is not available.

Available transportation options may also **incur significant cost or discomfort**. Public transportation may not be available at the time needed or may take a significant amount of time to reach the final destination.

Discussion of Second Delay Factors

Financial and other barriers

While transportation is a significant factor in the second delay, other financial considerations may also impede the ability of women and their families to reach care when needed.

While health care is free in the public sector, which is also the only significant health provider in Timor-Leste, **financial considerations were highlighted as a significant concern** not only in the decision-making process (first delay) but also the ability to pay for transportation.

Financial concerns related to transportation were cited by a significant proportion of men and women as to why local options were considered first. **Few people were able to save money to cover transportation costs** if needed. Covering day-to-day living expenses was more important and usually any saved money went to those expenses first.

Many respondents also noted that financial concerns not only weighed on transportation decisions, but were also a concern with respect to **the time and opportunity costs**. For example, many lived in rural areas with livestock and agricultural responsibilities. There were concerns about who would tend the crops and animals during any absence. This concern extended to child care and household management as well.

Concern about additional costs for feeding or providing for the woman while she is in a facility and accommodations for another person to tend to her needs are yet another barrier.

Discussion of Third Delay Factors

Medical supplies and equipment

Without a sufficient supply of medicines and equipment to manage the specific complication, health facility cannot provide high-quality and appropriate care.

Perceptions of the quality of care received in health facilities was almost universally high among both men and women. About 88% of men and 95% of women rated the services they received at facilities as either good or excellent.

However, the ***lack of available medicine*** often detracted from the quality of care received. Approximately 33% of men and 65% of women cited a lack of supplies at health facilities as a concern.

Factors that contribute to such differences between men and women may be that women are more likely to access health facilities more often for care during pregnancy and for their children. Therefore women may have had greater exposure to an irregular supply of medicine than men.

One particular supply aspect related to BP/CR was ***blood supply***, a relatively non-existent system in Timor-Leste. The lack of a blood supply at health facilities makes identifying a blood donor ahead of time an important preparation process, especially in case of complications such as hemorrhage.

Discussion of Third Delay Factors

Antenatal care (ANC) visits are an important "teachable moment" for educating women and their families and encouraging the BP/CR planning process.

While adherence to antenatal care cannot fully identify or prevent all potential complications, it plays an important role in helping to achieve a successful labor and delivery process.

ANC visits physically and mentally prepare women for the pregnancy, delivery, and postpartum periods and ensure health of the woman and the fetus during pregnancy.

Compliance with ANC is very high in Timor-Leste, with over 70% completing four ANC visits or more. About 65% of women had their first ANC visit during the first trimester.

Just as important as attending ANC is the ***content and quality of the information received*** and interactions during those visits. For ANC visits to be effective, appropriate messages must be delivered in a manner that is understandable to women and their families.

Although not specifically assessed in this study, ***proper training, appropriate educational materials, and supportive supervision*** are elements that can improve the content and quality of ANC visits, particularly to promote a BP/CR planning process.

Antenatal care

Discussion of Third Delay Factors

The attitudes and behaviors of staff affect patient care, and ultimately health outcomes. Poor interactions can affect patient interest in seeking services at the facility in the future.

In general, the perceptions of the quality of care received at facilities were extremely positive. Further, there was confidence in the ability of health personnel such as doctors and midwives to treat complications.

Despite this general positive experience, about one-quarter of men and women felt that women were not treated respectfully by staff. Anecdotal evidence that contributed to the impression of disrespectful treatment included staff screaming at patients or other staff members.

Staff attitudes

The **burden on limited staff** may affect how they treat patients. Some lower facilities, such as health posts, often have only one person to manage and treat cases. This person may be overwhelmed by the responsibilities and long working hours. Health personnel at lower facility levels may also be frustrated by the **lack of equipment or supplies** to properly treat patients requiring care.

Finally, some health personnel may **lack the knowledge** to treat certain conditions or manage cases they encounter at the facility. All these circumstances can lead to poor attitudes among health facility staff, and may result in unpleasant interactions with patients.

Recommendations

*Health Sector Building
Blocks (pg. 49)*

*Cross-Sectoral
Cooperation (pg. 50)*

*First Delay
Recommendations
(pg. 51)*

*Second Delay
Recommendations
(pg. 53)*

*Third Delay
Recommendations
(pg. 54)*

Recommendations

As maternal health is multidimensional, coordinating the building blocks of the health sector can create more effective programs to increase coverage and improve access to maternal health.

Improving maternal health requires strengthening the entire health system. This strengthens the system's ability to deliver an appropriate package of preventions for maternal care.

- **Improve sector governance.** Ensure that appropriate policies, regulations, and coordination are in place to improve accountability and other regulatory oversights.
- **Strengthen sector infrastructure.** Ensure that appropriate referral systems are linked with providers and that essential medicines and supplies are available.
- **Develop human resources.** Scale-up available skilled attendance, with distribution in areas of most need.
- **Ensure sufficient financing.** Reduce barriers that de-motivate staff such as low salaries by providing appropriate incentives, especially to staff placed in hard-to-reach areas. Consider using community financing schemes to help cover expenses related to reaching and receiving care.
- **Strengthen service delivery.** Ensure the availability, quantity, and quality of care of maternal health services, including family planning, across all levels of the health system.

Health sector building blocks

Recommendations

In addition to a strong health system, improving maternal health outcomes requires cross-sectoral cooperation at the national level to facilitate long- and short-term system-level changes.

Collaboration and coordination with other ministries can minimize barriers that impede financial, structural, or other access to health services and information. Examples of cross-sectoral ministerial collaboration include:

- **Ministry of Education.** Strengthen literacy efforts and develop educational materials targeting low- to not-literate audiences.
- **Ministry of Development or Ministry of Agriculture and Fisheries.** Build on existing systems of community-based extension workers to provide health education to wider audiences.
- **Ministry of Finance.** Establish community-based financing schemes or revolving funds to assist women and their families to support care-seeking costs.
- **Ministry of Public Works, Transport, and Communication.** Identify particularly challenging geographic areas to target for infrastructure improvements.

Cross-sectoral cooperation

Recommendations

Recommendations to address the first delay.

- **Focus on culturally appropriate verbal or visual educational messages.** Written educational materials will be of limited use to the large segment of the population that is cannot read. Use other communication methods to accommodate those with limited literacy.
- **Help people process learned information.** In addition to *providing* health education, it is important to help men and women *evaluate and apply* the information that is most relevant to their situation.
- **Use preferred information sources.** Men and women indicated they liked to receive educational information from different sources. By utilizing those preferred and trusted channels, programs can more effectively reach their intended audience.
- **Focus education messages on key danger signs.** While it is important for women and their families to be aware of any potential problems, key danger signs should be highlighted as those requiring immediate attention.
- **Expand key messages base.** Emphasize that all pregnancies can incur complications and previous experiences cannot be used to gauge subsequent experiences.
- **Intensify efforts to promote birth preparedness and complication readiness.** Emphasize preparation and planning ahead of time to minimize decision-making delays during emergencies.

Recommendations

Recommendations to address the first delay.

- **Strengthen linkages between TBAs and health facilities.**
Given the important role of TBAs in delivery preference, finding ways to incorporate TBAs while promoting skilled attendance may facilitate the transition for women and their families.
- **Identify community “champions” to advocate BP/CR.** Calling upon on recognized community leaders to promote BP/CR will encourage uptake of these practices.
- **Identify ways to incorporate non-harmful traditional practices with BP/CR concepts.** Incorporating familiar practices can ease the transition to and uptake of BP/CR.
- **Involve a broader scope of familial and community members in the planning processes.** Involving others in decision making acknowledges traditional practice while emphasizing planning ahead of time.
- **Start the BP/CR process early.** Ongoing planning efforts throughout the course of a pregnancy will facilitate the involvement of family members needed for the decision-making process and will ensure that women’s voices and preferences are heard and considered.

Recommendations

Recommendations to address the second delay.

- **Systematically address barriers to reaching care.** Regular plans for facilitating transport from the community to the facility, or encouraging families to save money prior to the event instead of *ad hoc* approaches, can reduce transport delays.
- **Support other community-based options.** In-kind support systems, such as a roster of volunteers to care for people's children, livestock, and crops during any absence, can be developed. The support can be reciprocated through other volunteer acts as needs arise.
- **Consider alternative MOH-managed community-based transport options.** Placing MOH-managed transportation options (such as motorcycle ambulances) that can serve as alternatives to ambulance vehicles in communities may reduce transportation barriers.
- **Support community-based funds to support transportation and other costs.** A variety of funds can be established or developed to provide transportation support in cases of emergencies and for the care of the woman and her family while she is at the facility.

Recommendations

Recommendations to address the third delay.

- **Ensure that facilities meet basic standards.** Regularly evaluating key facility components and integrating plans for improvement into budgeting and planning processes can help ensure that quality standards and equipment are available.
- **Strengthen system to improve supplies.** Regular evaluation of the logistics system can help ensure that medicines are available when needed.
- **Link health facilities with community-based workers such as TBAs to identify all pregnancies in the community.** Enumeration of all pregnant women at the local level will assist with targeted educational efforts and will help health facilities identify high-risk pregnancies.
- **Regularly assess and support the quality and content of ANC visits.** Simple planning checklists can help ensure that key BP/CR topics are covered and planned for during ANC visits. The quality of ANC content must be consistently monitored and supported through mechanisms such as records review and client exit interviews.
- **Develop or integrate BP/CR educational or planning materials.** BP/CR planning processes can be supported by culturally appropriate education materials and tools during community outreach and ANC visits and at other facility-based opportunities.
- **Incorporate sensitivity training.** Equally important to having the proper knowledge about how to treat a case are sensitivity and interpersonal skills. These are not always inherent and should be taught.

Using the Study Results

Dissemination Process

To ensure study results were used, the Ministry of Health (MOH) and National Institute for Health (INS), with technical assistance provided by HIP, engaged in a dissemination process at the national, municipal, and region levels.



The findings of the *Maternal Health Community Study* were presented to the MOH Council of Directors in April 2015.

At that time, the Minister of Health noted that the responsibility for developing strategies to reduce delays in seeking, reaching, and receiving care must be shared by all sectors of government, including health, infrastructure, transport, water and sanitation, agriculture, and social services.

Study results were presented to the municipalities of Ermera and Manatuto and the Special Administrative Region of Oecusse Ambeno.

Health and community leaders from each study site participated in dissemination workshops to determine how the findings could best be used. Data from the MOH Facility Readiness Assessments and coverage data of all technical programs was also presented. These data provide evidence for participants to develop municipal and regional action plans.

Municipal and regional leaders worked with public health officers, staff from health facilities, community leaders, and MOH to determine how to use the study findings.

Community Recommendations

The study results had a direct application to program delivery within a systematic and sustainable process.

*As a result of the workshops, **action plans** were developed for Oecusse, Ermera, and Manatuto. These plans were used to develop the **2016 Annual Implementation Plans** that will be implemented through the **MOH Annual Planning and Budgeting Cycle**.*

The examination of the study results at the dissemination workshops also resulted in several recommendations from the participants.

Recommendations for the Government of Timor-Leste

Invest human and financial resources in multi-sectoral strategies to increase the availability, accessibility, and affordability of maternal health care services.

Recommendations for the Ministry of Health

Use existing policies and mechanisms to increase collaboration between the MOH and the ministries of infrastructure, transport, water and sanitation, education, agriculture, finance, and strategic investment as



Jose Magno, Director General of the Ministry of Health addressing the Ermera action planning workshop.

well as churches and NGOs to mitigate the three delays.

Community Recommendations

Recommendations for the health facility to improve the quality of treatment

- Staff training on safe delivery.
- Improve staff communication skills and quality of treatment women receive to encourage return visits if needed.
- Ensure that staff maintain their schedules and provide alternative staffing plans as needed.
- Ensure all facilities are equipped (with medical equipment and supplies, vehicles, etc.) to respond to emergencies

Recommendations for the health provider to promote BP/CR

- Use individual counseling, group discussions, and community events to educate women and their families on danger signs and importance of delivering in a health facility.
- Ensure midwives provide all ANC and PNC services during integrated community health service (*Sistema Integrado Saude Comunitaria - SISCa*) events.
- Identify all pregnant women in the community and ensure they have a birth plan, receive ANC/PNC, and deliver with a skilled attendant.
- Ensure strong collaboration with community leaders to better respond to obstetric emergencies.
- Coordinate with community leaders to implement a SISCa schedule to ensure maximum participation.

Recommendations for the community to help women and their families access care

- Enumerate and track pregnant women to identify high-risk pregnancies in collaboration with health facilities.
- Ensure that community leaders and Community Health Volunteers (PSFs – *Promotores Saude Familia*) visit the homes of pregnant women to encourage them to develop a birth plan and use a facility at delivery.
- Assist families who need emergency transport by developing a community transportation plan and identifying ways the community can provide financial support if an ambulance is not available.
- Coordinate with health staff to provide necessary assistance during obstetric emergencies.

Conclusion

Conclusion

Improving the quality and coverage of health care and reducing barriers and facilitators to care requires a combination of strategies within and between sectors and from the community to the national level.

Despite significant progress, the Millennium Development Goal 5 of preventing maternal death and disability has not been achieved in 2015.

At the **community level**, stakeholders, leaders, and community members can use local resources such as opinion leaders to serve as advocates and educators; and can develop local solutions, such as community funds to help women and their families achieve healthy maternal and child outcomes.

At the **national level**, the Ministry of Health can facilitate intra-agency coordination to ensure that the six key building blocks within the health sector are realized. Prioritizing systems strengthening activities that have a more direct influence on maternal health can help focus efforts more effectively.

Interagency coordination between government sector can help identify areas to improve, such as infrastructure, financing, to reduce barriers to accessing and utilizing care.

Achieving significant reductions in poor maternal health outcomes is no small task. Concerted efforts between sectors and across multiple levels are the greatest opportunity for significant and sustained improvements.

Annex

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More Information

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For more Information

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Annex 14: Community Monitoring and Tracking Tools for Safe Motherhood and Childhood Immunization

Birth Preparedness and Complication Readiness Plan

Naran Inan Isin Rua:	No. Tlf:	Naran Laen:	No. Tlf:
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BP/CR Tracking Tool

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Template for Suco Report on BP/CR to Quarterly Micro Plan Meeting

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